

# ICON

## 414

### 14 Yd. Rear Lowering Earthmover



Parts  
And  
Service

# **ICON Industrial Product Warranty**

ICON Industries Inc. 1600 W. 8<sup>th</sup> ST. Beloit KS 67420  
(referred to as ICON in this document)

*ICON shall Warrant workmanship and materials on the **ICON Industrial Products** for a period of 180 calendar days from the date of original purchase, lease, or rental, from the original Dealer, and in accordance with the following terms and conditions.*

*Should any part or component fail within the Warranty period, and under normal use conditions, ICON shall supply a new part or component for replacement through the original Dealer. Cost of normal ground freight, for that part or component to the Dealer, shall be paid by ICON. Repair and replacement labor cost, from the original Dealer, shall be paid by ICON at a rate negotiated by ICON.*

*No further expense shall be paid by ICON, including but not limited to, loss of time or income.*

*ICON shall not provide Warranty on any part or component that has failed due to abuse, misuse, alteration, improper maintenance, or normal wear. Failure occurring while being pulled by a tractor in excess of engine horsepower, as described in the owners manual and/or posted on the machine, is considered abuse and misuse and shall not receive Warranty.*

*In regard to some components manufactured by other companies and sold by ICON, including but not limited to tires, said Warranty shall be provided solely by that manufacturing company.*

*This Warranty applies to products sold in the United States and Canada, and is made expressly in place of all other warranties, expressed or implied.*

## ICON Dealer Pre-Delivery Checklist

- Lubricate the machine with high temp grease, per the listing in the manual and the decals on the machine.
- Plug in the hydraulic hoses per the information in the manual and on the ICON hitch. The hoses have color coded bands and the instruction decal on the hitch, will aid in the proper hookup. (the hydraulic hookup is only recommended and should be adjusted to the owner/operator's preference.
- Cycle the machine, checking performance and any possible leaks. The ICON earthmover has been filled with hydraulic fluid and cycle checked at the factory, however, air pockets can still exist, in the system. Check the tractor to be sure the hydraulic valves have been adjusted to maximum flow.
- Plug in the safety lights and check the function of the stop and turn signals.
- If the machine is equipped with the optional brake package, plug the connector into the tractor receptacle. By moving the tractor forward and applying the brakes, resistance should be felt, from the scraper.

NOTE: ICON products are a fully assembled as possibly allowed for shipping. Hydraulic systems are filled and cycle tested at the factory, if assembly of those components can be allowed for shipping. Every effort is taken by ICON to simplify predelivery by the ICON Dealer.

Should you have any questions in regard to setup or predelivery, please contact ICON Product Support for assistance.

## ICON Dealer Delivery Check List

- Give the ICON Operation/Service/Parts Manual to the Owner/Operator and show where it may be kept on the machine.
- Have the Owner/Operator read the safety and maintenance section of the Manual, review and answer all questions in regard. Also, review the ICON Warranty with the Owner.
- Complete and sign the Warranty Registration Form and have the Owner read the sign the form. Mail the Warranty Registration to ICON immediately. Write in the model, date of purchase, and Dealer name and phone number in the area provided in the Manual for the benefit of future questions, service, and parts.
- Emphasize that any additional Operators on the ICON machine should read the safety section of the manual and receive instruction from an experienced ICON Operator before proceeding.
- After 24/36 hours of running, the machine should be checked by the Dealer according to the enclosed check list.
- Only high temp grease is recommended for use in the axle housings on the ICON Earthmovers.

NOTE: Proper instructions to the ICON Owner/Operator on safety, operation, maintenance and timely lubrication is essential for the longevity of the machine.



## ICON Industries Commercial Earthmover Assembly, Lube and Check List

- \_\_\_ 1. Install cutting bits, Torque retaining bolts.
- \_\_\_ 2. Locate and pin rear lift assembly. Install lift cylinders. Torque all retaining bolts.
- \_\_\_ 3. Position and pin eject wall. Install eject cylinder and linkage. On Series D Models pin the floor and install cylinder. Torque all retaining bolts. Install the depth gauge components.
- \_\_\_ 4. Locate and pin front gate and gate lift assembly. Install lift cylinder. Torque all retaining bolts.
- \_\_\_ 5. Install front swivel hitch assembly. Torque all retaining bolts.
- \_\_\_ 6. Install axle and wheel components. Torque all retaining bolts. Inflate tires to required PSI.
- \_\_\_ 7. Locate and assemble all hydraulic fittings, hoses and pipes. If applicable, install tandem option package. Install front hose holder assembly. Properly tighten fittings, taking care not to overtighten. Install the proper markings to each hose and apply color coded hose wrap.
- \_\_\_ 8. Install safety lighting components, route wiring and install plug retainer. Cycle and check lighting system with 12 volt system tester.
- \_\_\_ 9. Lubricate all moving components with high temperature grease.
- \_\_\_ 10. Fill hydraulic systems with Mobil 424 hydraulic oil. Using hydraulic pump, activate all moving parts and bleed air from the system. Hold 3000 PSI hydraulic pressure against all cylinders, fittings, and hoses for a minimum of 4 minutes. Check all components for leaks.
- \_\_\_ 11. If the optional brake assembly is installed, check and cycle brakes, bleed air if necessary.
- \_\_\_ 12. Calibrate the depth gauge. Clean and touch up paint the machine. Attach manual/container. Make sure each hyd. accumulator is charged to (650psi. on 800 series, 350psi on 18D's)
- \_\_\_ 13. Apply the serial tag, operations, lube and identification decals. Attach ICON check list to the front of the machine. Warranty info and Dealer 36 hr. check list is located in the manual.
- \_\_\_ 14. Check safety stops to be sure that each properly engage and lock the components in a safe and secure manner.

**ICON Supervisor Signature:** All of the above listed assembly and check functions have been completed per my rigid standards.

Serial # \_\_\_\_\_

\_\_\_\_\_  
Checked By

Date \_\_\_\_\_

\_\_\_\_\_  
Supervisor

Swivel Hitch Stamp \_\_\_\_\_

Owner's Copy

## ICON Industries Commercial Earthmover Assembly, Lube and Check List

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Swivel Hitch Stamp \_\_\_\_\_



## Table Of Contents

A. Product Warranty	Inside Front Cover
B. Scheduled Maintenance	
C. Safety Section	
D. Axle Adjustment	
E. Damage While Pushing	
F. Mounting/Dismounting Of Earthmover	
G. 400 Series Parts Listing	
H. 400 Series Components	
I. Bolt Listing	
J. Component Photos	
K. Swivel Hitch	
L. Hub/Axle Assy.	
M. Brake Components	
N. Cutting Edges & Components	
O. Accumulator NA on 414	
P. Hydraulic Components	
Q. Decal & Safety Sticker Location	
R. Axle Seal Replacement	

## Scheduled Maintenance

A quality high temperature grease should be used when lubricating the machine. Most areas of lube are scheduled daily, (8 to 10 hours or running). There are app. 26 grease zerks on all ICON models, that should be greased daily. And an additional 2 zerks per axle, that should be greased weekly, with 3 pumps of grease. Reference to their location is listed in the grease guide, at the front of this book.

All bolts are torqued at the factory during assembly. After 24-36 hours of running, the Dealer service should recheck the torque on the hitch, wheel, axle, and pin retaining bolts. Each time the machine is greased, the operator or maintenance should look at these areas and the bolts involved, to be sure none are working loose. After each 1000 hours of operation with the machine, the above mentioned locations should be checked, and retorqued, per the torque chart at the back of the book. The axle nuts should be adjusted the initial dealer visit. Adjustment procedure is described in the back of this manual.

For safety, identification, and general information, all missing or damaged decals on the machine should be replaced.

The ICON earthmovers have the interior of the bowl painted with a carbon base graphite paint, which rejects dirt. Should that paint wear off over a period of time, replacement paint may be ordered by the gallon through the original dealer.

The cutting bits for the earthmovers are available through ICON. The bevel is reversed as compared to the normal bits, in order to make loading easier in tough ground. The reverse bevel will not have the same longevity in wear as the normal bevel. Replacement bits may be ordered from ICON, or you Dealer, refer to the cutting edge section of this manual for size and part number.

All retaining pins have replaceable bushings. Watch the pin locations in action to review for loose and worn operation.

Remember, the longevity of your machine will depend on proper operation and maintenance.

### Warning!

To prevent a hazardous situation, which if not avoided can result in injury or death, read and follow these instructions!

Read and understand the operator's manual before operating the machine. Allow no one to operate the machine before reading the manual and being instructed on the proper operation.

Before servicing the machine, block the wheels, shut off the tractor, set the brakes, and remove the key. If working under the machine, block the machine up for a safe and secure working area. Apply any safety stops provided.

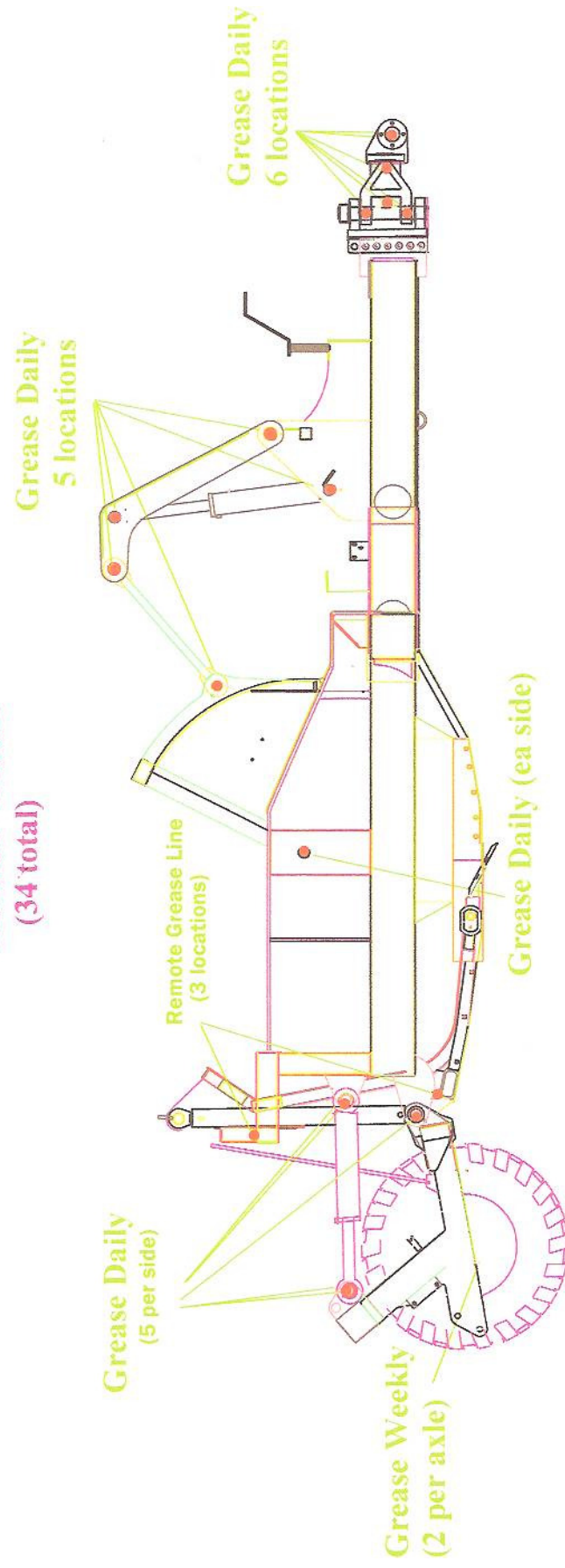
When working with hydraulic lines, cylinders, or fittings, wear protective clothing and safety glasses to guard against high pressure oil leaks.

Do not allow anyone on, or near the machine while it is running, or in motion.

Do not operate the machine on a steep incline or slope that could create an imbalance or rollover.

## Grease Guide For 400 Series Earthmovers

### Grease Guide (34 total)







The safety Alert symbol is shown above. It is used in potentially dangerous areas. When you see this symbol on the machine or in this manual be aware that precautions should be taken to avoid personal injury, to yourself or others.

Follow all safe operating procedures!

### Signal Words

Signal words are used along with the safety alert symbols to keep people aware that a serious injury risk is present.




**DANGER**—Marks the most serious

**WARNING** and **CAUTION** signs are normally used for general safety precautions.

### Moving Parts

Be aware of all moving parts of the machine.

Do not allow anyone to be near, or on the machine while operating any moving parts.

 <b>DANGER</b>
To prevent a hazardous situation, which if not avoided can result in injury or death, read and follow these instructions!
<ul style="list-style-type: none"><li>✓ Read and understand the operator's manual before operating the machine. Allow no one to operate the machine before reading the manual and being instructed on proper operation.</li><li>✓ Before servicing the machine, block the wheels, shut the tractor off and set the brake. If working under the machine, block the machine up for a safe and secure working area. Apply any safety stops provided.</li><li>✓ When working with hydraulic lines, cylinders, or fittings, wear protective clothing and safety glasses to guard against high pressure oil leaks.</li><li>✓ Do not allow anyone on or near the machine while it is running or in motion.</li><li>✓ Do not operate the machine on a steep incline or slope that could create an imbalance or rollover.</li></ul>
 <b>WARNING</b>
<ul style="list-style-type: none"><li>* Maximum machine speed, 25 mph. Slow to a safe speed on steep declines, curves, rough terrain, side slopes, and around equipment and people.</li><li>* Replace or repair damaged hydraulic lines or fittings.</li><li>* Transport this machine only with a vehicle having power, brakes, and capacity to control the gross vehicle weight.</li></ul>
 <b>CAUTION</b>
<ul style="list-style-type: none"><li>* Do not alter the design of this machine. Doing so could create a safety hazard, reduce the durability or performance, and/or may alter the ICON Warranty.</li><li>* Maintain proper bolt torque on the wheels and hitch.</li><li>* Replace any missing or damaged machine decals.</li></ul>





Safety Section 3b

High Pressure fluid can cause serious damage to hands and eyes.

Carefully relieve pressure before attempting any adjustment.

Tighten all fittings before applying pressure.

If fluid is sprayed into eyes or injected into skin.

**SEE A DOCTOR IMMEDIATELY!**

 <b>WARNING</b>	
	
<p><b>High pressure fluid hazard !</b> <b>To prevent serious injury or death:</b></p> <ul style="list-style-type: none"><li>• Carefully relieve pressure on system before adjusting, repair, or disconnect</li><li>• Wear proper hand and eye protection when servicing.</li><li>• Repair or replace all bad components.</li></ul>	

**Pinching or Crushing Danger**




Moving parts that are operated by hydraulic pressure can cause serious injury or death.

Use extreme caution when working around any moving part.

**Do Not** allow any person to be on or near the machine while it is in motion.

Replace all missing or damaged safety signs and decals.

A list of the signs/decals and their placement, is located in the back of this manual.

 <b>DANGER</b>	
	
<p><b>To prevent serious injury or death from pinching or crushing:</b></p> <ul style="list-style-type: none"><li>• Keep all persons and objects clear of this machine while any part is in motion.</li><li>• Do not crawl in or under this machine while the tractor is running. Place the safety stops on the hydraulic cylinders before servicing.</li></ul>	



# Foreword

## Literature Information

This information should be stored in the literature holder located on the machine.

This manual contains safety information, operating instructions, lubrication and maintenance information.

Some of the photographs or illustrations in the publication show details that can differ slightly from your personal machine. Shields and covers may have been removed to allow for illustrations.

Constant improvement and knowledge of product design may cause changes to your personal machine that is not listed in this manual. Read, understand, and keep this manual with the machine to aid in repairs, adjustment, service and parts identification.

Whenever a question arises regarding your machine, or this manual, please contact Product Support for assistance.

## Safety

The safety section of this manual lists basic safety precautions. In addition, this section shows the location of safety signs and decals used on this machine.

Read and understand the basic precautions listed in the safety section before operating or performing lubrication, maintenance or repair work on this machine.

**NOTE: Before any service or repair work is performed, make certain that all safety stops are in place.**

**Be certain to remove all safety stops when repairs are complete.**

## Operation

This operation section is a reference guide for the new operator and a refresher for the experienced operator. Operating techniques shown are basic, skill and technique will increase with knowledge and usage of the machine.

## Maintenance

The maintenance section is a guide to machine care. The illustrated step by step procedures covers the most important of the maintenance schedule. Regular routine lubrication is described in less detail.

## Maintenance Intervals

Normally, all lubrication should be on a daily basis. However, certain locations only require lubrication on a weekly basis or require a specific quantity. These locations will be marked clearly, showing and describing requirements.

Under extremely severe, dusty/wet/sandy conditions, or if the haul is long and rough, more frequent lubrication and inspection of highly stressed areas is recommended.

## **Safety Section**

### **General Hazard Information**

## **Safety Section**

### **General Hazard Information**

A “Do Not Operate” warning tag or similar warning tag should be attached to the start switch or controls before servicing or repairing the machine.

Know the width of your equipment in order to maintain proper clearance when you operate the machine(s) near fences or boundary obstacles.

Be aware of high voltage power lines or buried power cables. If the machine comes in contact with these hazards, serious injury or death may occur, from electrocution.

Wear a hard hat, protective glasses, and other protective equipment, as required.

Do not wear loose clothing or jewelry that can snag on controls or other parts of the machine.

Make sure all protective shields and covers are secured in place on the machine.

Obey all local regulations for the disposal of liquids.

Do not allow unauthorized personnel on the machine

Unless you are instructed otherwise, perform maintenance with the machines in the servicing position. The operation and maintenance manual will describe the proper position.

Never put maintenance fluids (hydraulic) into glass containers. Drain all liquids into suitable containers.

### **Trapped Pressure**

Pressure can be trapped in a hydraulic system. Releasing trapped pressure can cause sudden movement of the machine. Use caution if you disconnect hydraulic lines or fittings. High pressure oil that is released, can cause a hose to whip. High pressure oil that is released, can cause oil to spray.

Fluid penetration can cause serious injury or death.

### **Fluid Penetration**

Pressure can be trapped in a hydraulic system, long after the engine has been stopped. The pressure can cause fluid or fittings/ends to detach rapidly, if the pressure is not released properly.

Do not remove any hydraulic components until pressure has been relieve, or personal injury may result. Do not disassemble any hydraulic components or parts until the pressure has been relieved, or personal injury may occur.

Always use a board or protective shield when you check for high pressure leaks. Hydraulic fluid is under extreme pressure and can cause serious injury and possible death. A pin hole leak can cause severe injury. If fluid is injected into your skin, you must seek treatment immediately. Seek treatment from a doctor that is familiar with this type of injury.

### **Containing Fluid Spillage**

Care should be taken to prevent spillage of hydraulic fluids during maintenance, testing, and repair of the machine. Prepare to collect any fluid with suitable containers before opening any system containing fluids.

Obey all local regulations for the disposal of liquids.

Improperly disposing of waste fluids can threaten the environment. Potentially harmful fluids should be disposed of according to local regulations.

Always use leakproof containers when you drain fluids. Do not pour waste onto the ground, or into any source of water.

### **Crushing/Cutting Prevention**

Support the machine properly before you perform any repairs or maintenance beneath that machine.

**Do not** rely on the cylinders to hold the machine up. If a control is moved or a hydraulic line breaks, the machine can fall.

Never attempt adjustments while the machine is in motion.

Stay clear of all rotating and moving parts.

If it is necessary to remove shields or panels for repairs/maintenance, be certain to replace them before using the machine.

When you strike a pin or retainer with force, chips and other debris can fly off the object.

Make sure that no one can be injured by flying debris before striking any object. To avoid injury to your eyes, wear protective glasses when striking any object.

Make certain that the cylinder stops are in place before making any adjustment/repairs under the machine.

The stop pins should be in place on the clam before working around the front of the machine.

### **Line, Tubes and Hoses**

Inspect all lines and hoses for wear and chaffing. The hoses must be properly routed and have adequate support and the clamps should be secure.

Tighten all connections to the recommended torque.

Do not bend high pressure lines. Do not install any lines that are bent or damaged.

Repair any lines that are loose or damaged.

Check lines, tubes and hoses carefully. Do not use your bare hands to check for leaks. Use a board or cardboard to check, as high pressure fluid can enter soft tissue.

Tighten all fittings and clamps to proper torque specs.

## **About the ICON Limited Warranty.....**

The ICON 400 Series scraper is designed with rear lowering and a push bumper (optional) on the rear. The responsibility of use of this push bumper is left up to the discretion of the owner and operator.

When push loading a pull type scraper, there are many issues to contend with so as not to damage the scraper or the pull type tractor. The most important is the operator. The push tractor can be an issue. Size and power must be kept within reasonable range. Should the pull tractor operator put the scraper bit too deep into the ground, damage can occur due to undue stress on the frog of the scraper. A straight push is necessary. Out of line or side stress can damage the rear frame and possibly the scraper tires. Hard hits on link up with the push bumper can also damage the machine. Whether loading single or tandem machines, care must be taken not to jackknife the machines. Trained operators and common sense will create less damage and downtime. When pushing in a bogged down or stuck condition, extreme care must be taken so as not to side stress or damage the rear frame.

Due to the many ways in which the scraper can be damaged while pushing.

**ICON will not Warranty damage to the scraper occurred while pushing.**





NOTE: The ICON hitch is designed for safety, and one man operation — However, as with any moving part, the potential for injury is present. Be aware of your surroundings while backing. Make certain no one is between the scraper and the tractor while backing. Keep hands, feet and all body parts away from any machine component that pivots, swings, or moves in any way, to avoid a potential injury.



Back the power unit into position, attach the hydraulic lines. Pull the snap pin and slide the lock down pin out, allowing the lock down ears to pivot forward.

(shown in the adjoining photo)

Position the swivel hitch above the quick hitch, and hydraulically lower it into the cradle of the quick hitch.

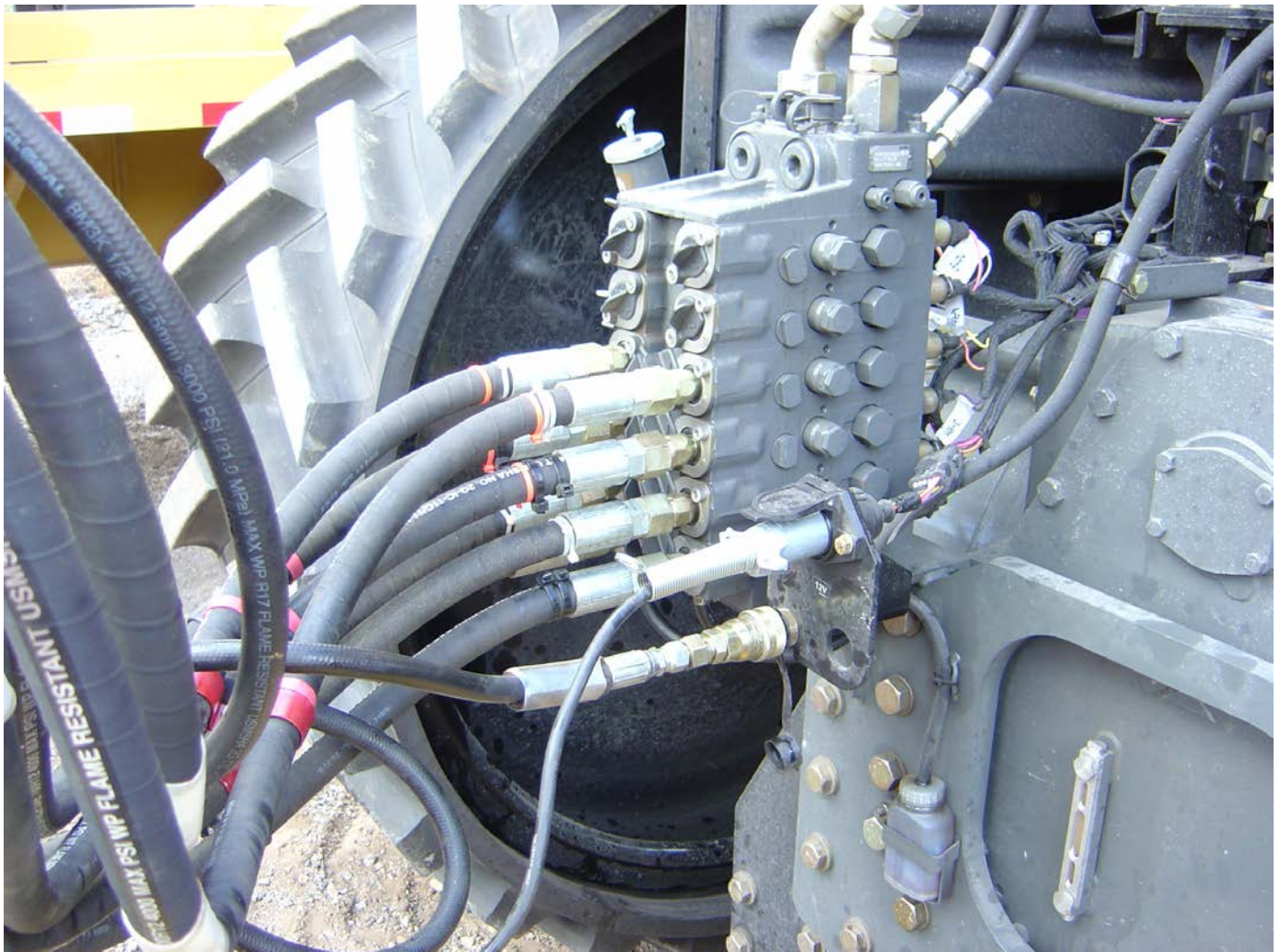
Pivot the lock down ears over the adapter and replace the lock down pin and snap pin. Valve #1 should be placed in the #1 outlet (raise/lower) # 2 should control the gate/wall.

If the machines are being pulled as a tandem unit, Valve #3 should control the gate/wall of the tandem machine and Valve #4 should control the raise/lower of the tandem machine.

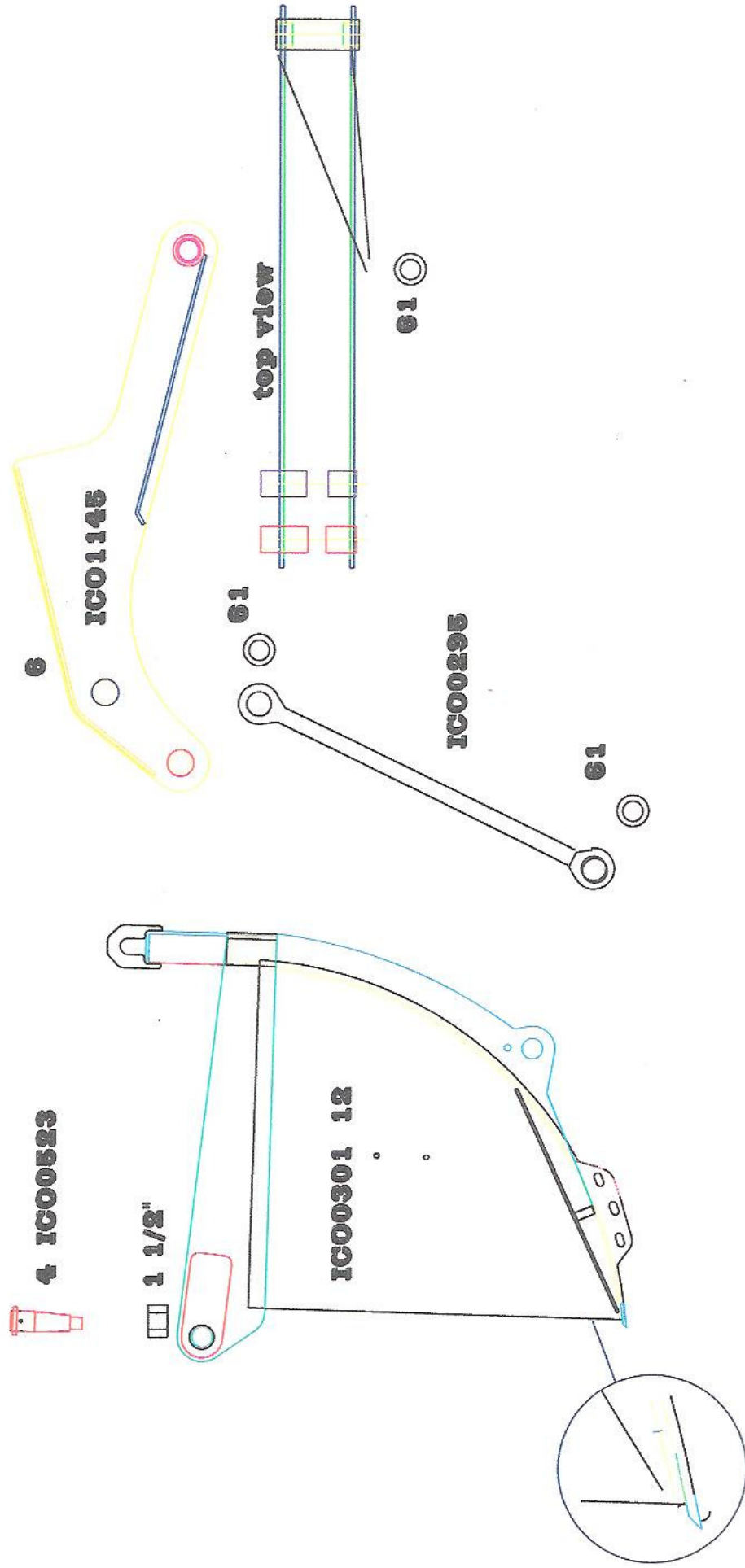
This hook up is only recommended, the operator should adjust for his/her own convenience.

Shown below is the current hydraulic configuration of the 800 Series Challenger. The covers are marked with a + or -, and the ICON hoses are marked accordingly. Also the optional brake hook up is shown.

**NOTE: High Pressure fluid can cause serious damage to eyes and hands. See Safety Section for safe hookup procedures.**



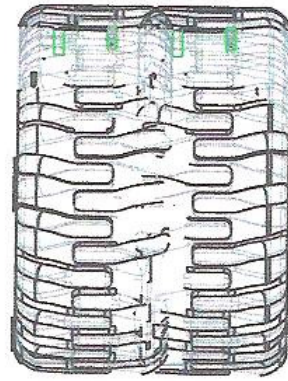
# Clam and Gate Arm





# **Rear Frame**

**4001471**



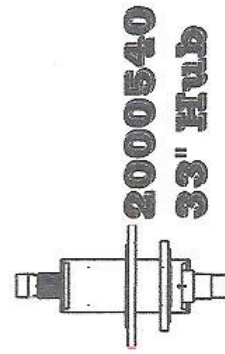
**19**



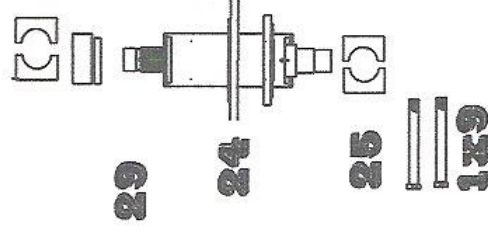
**4001295**

**4001315 r1m**

**4001272 r1m**



**2000540**  
**33" Hub**

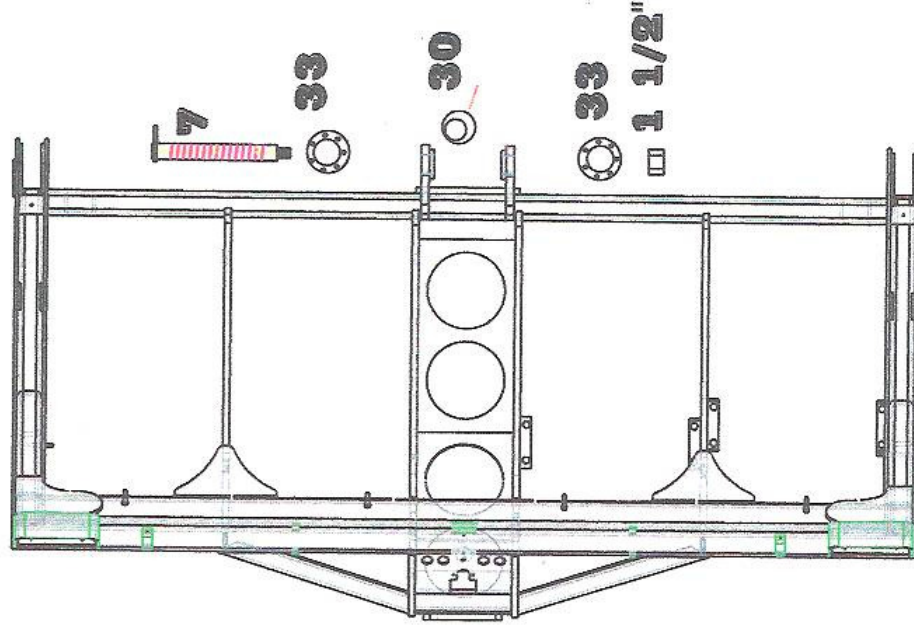


**29**

**24**

**25**

**1x9**



**7**

**33**

**30**

**33**

**1 1/2"**

**IG01138**

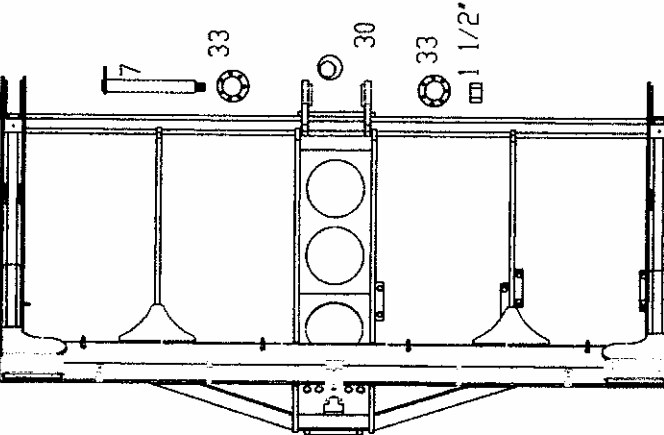
# 400 Series

Main Frame

6

61

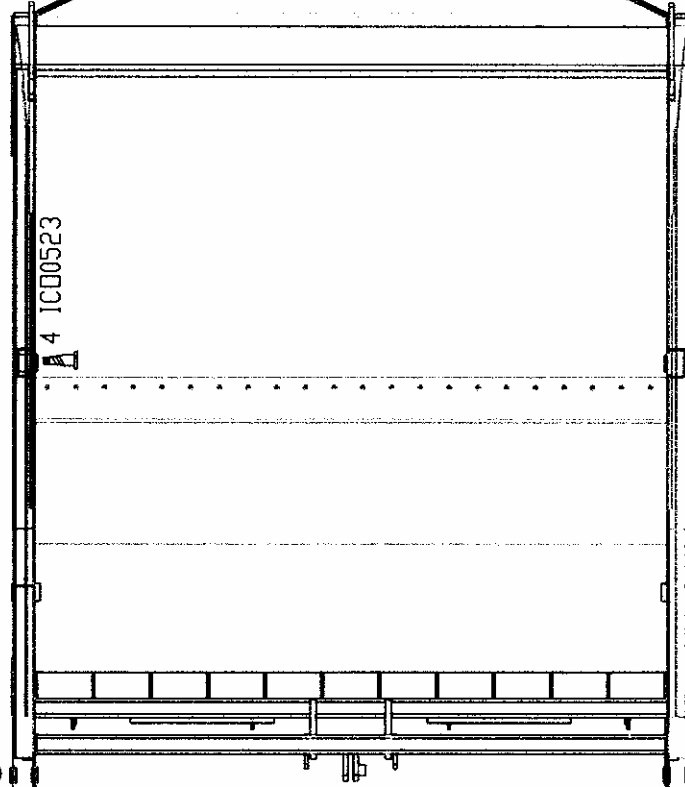
1 1/2" nut



ICD1138

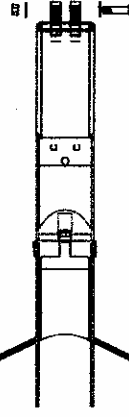
61

6



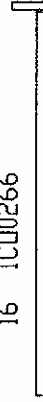
ICD1141

1 1/2 x 6  
1 1/2" Hex nut  
1 1/2" Hard washers  
Note: Every other bolt  
should alternate direction  
to aid in shear strength.

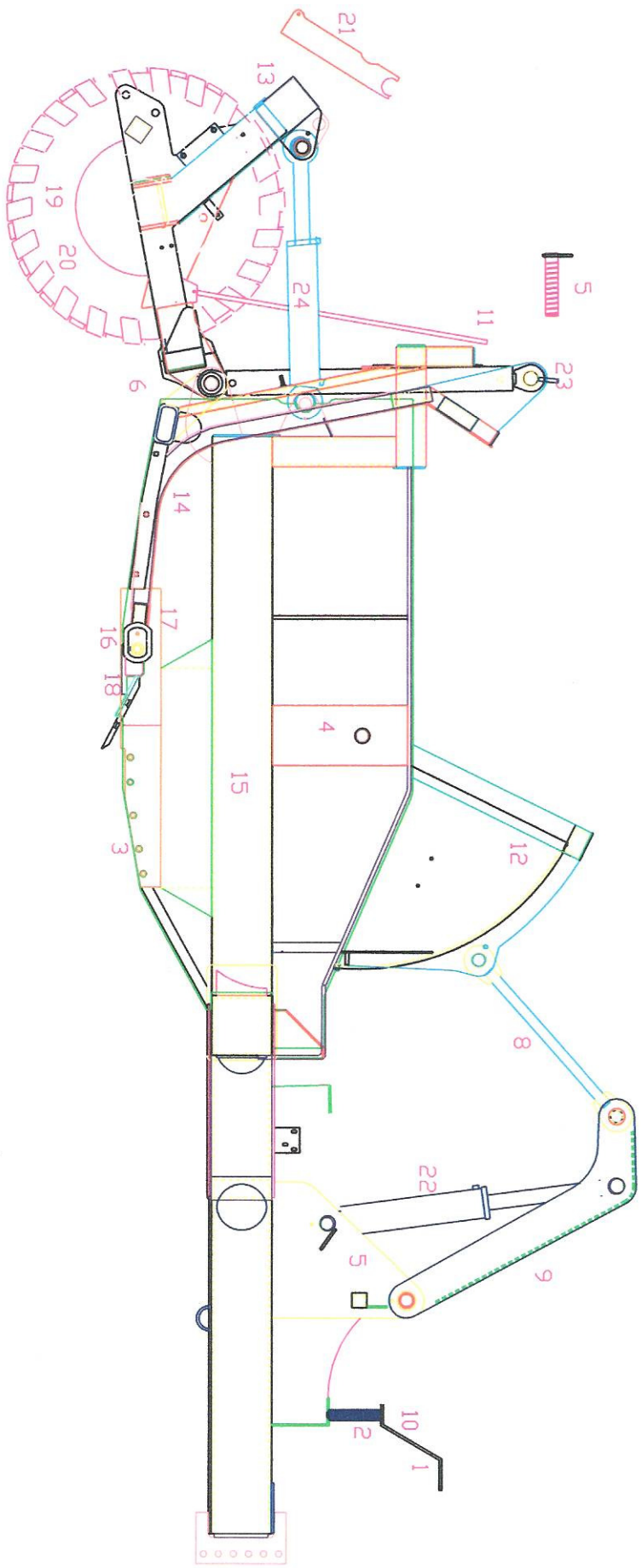


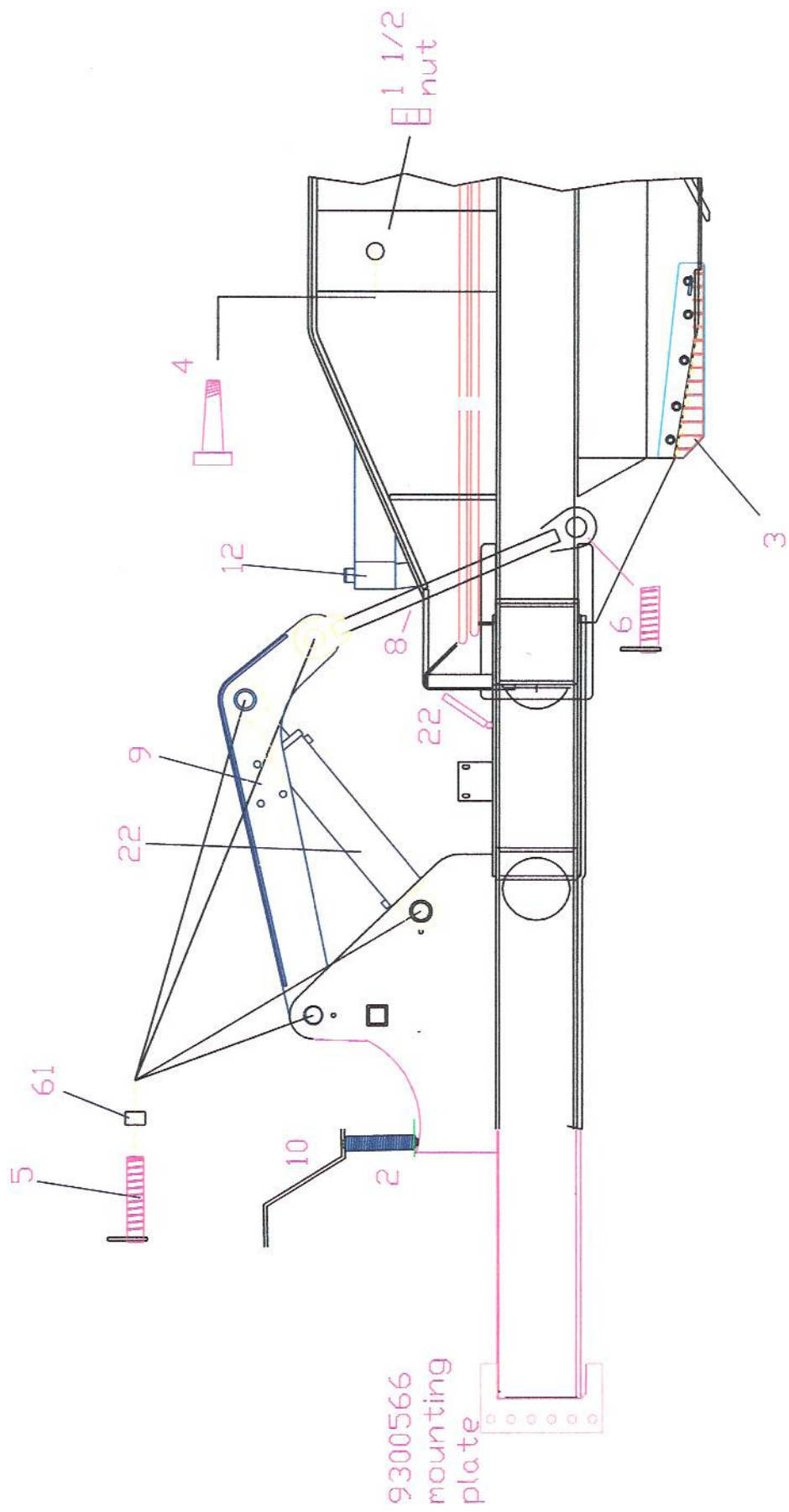
16 ICD0266

Floor Pin









## Bolt Listing For 400 Series Earthmovers

Component	Qty	Description
BH	4	Bolt, Hex 3/8x5" gr5
NW	4	Nut, Whiz 3/8"
<b>Hose Support</b>		
BP	20	Bolt, Plow 1x2 1/2" gr8
WFH	20	Washer, Flat, Hard
NJ	20	Nut, Jam 1" gr8
<b>Cutting Edges &amp; Frost Bit</b>		
BP	10	Bolt, Plow 3/4x2 1/2" gr8
WFH	10	Washer, Flat, Hard 3/4"
NJ	10	Nut, Jam 3/4" gr8
<b>Side Cutting Edges</b>		
NJL	2	Nut, Jam Nyloc 1 1/2" gr5
WFH	2	Washer, Flat, Hard 1 1/2"
4001440	2	Key, Woodruf 1 1/8x1/4"
<b>Clam Pins</b>		
BH	8	Bolt, Hex 1 1/2x3" gr5
WFH	12	Washer, Flat, Hard 1/2"
NL	12	Nut, Nyloc 1/2" gr2
<b>Rear Frame Hyd. Clamps</b>		
BH	6	Bolt, Hex 1 1/2"x6 gr8 SP
WFH	6	Washer, flat, Hard 1 1/2"
NH	6	Nut, Hex 1 1/2" gr8
<b>Swivel Hitch To Bracket</b>		
BP	6	Bolt, Plow 3/4x3" gr8
WFH	6	Washer, Flat, Hard 3/4"
NJ	6	Nut, Jam 3/4" gr8
<b>Rear Side Cutting Edges</b>		
BH	4	Bolt, Hex 1/2x2 gr5
BH	8	Bolt, Hex 1x9" gr8
<b>Axle Clamp Bolts</b>		
BH	6	Bolt, Hex 1/2x1" gr5
WF	6	Washer, Flat 1/2"
WFH	6	Washer, Flat, Hard 1/2"
<b>Front Hose Holder Springs</b>		
BH	20	Bolt, Hex 7/8x3" Fine gr8
WFH	20	Washer, Flat, Hard 7/8"
<b>Wheel Bolts</b>		

## Bolt Listing Cont.

Component	Qty	Description
BH	4	Bolt, Hex 3/4x1 3/4" gr8
BH	10	Bolt, Hex 3/4x1 1/2" gr8
WF	14	Washer, Flat 3/4"
WFH	14	Washer, Flat, Hard 3/4"

### **Hold Downs For All 2 1/2" Pins Except ICO0222**

BH	1	Bolt, Hex 3/4x2 1/2" gr8
WF	1	Washer, Flat 3/4"
WFH	1	Washer, Flat, Hard 3/4"
NH	1	Nut, Hex 1 1/2" gr8
WF	1	Washer, Flat 1 1/2"
WFH	1	Washer, Flat, Hard 1 1/2"

### **Center Rear Frame Pin ICO0222 Hold Down**

4000067	8	Zerk Straight 1/8"
4000591	8	Zerk 1/8" 90 Degree
4000720	3	Adaptor 1/8-27-1/8NPT 90 ST Elb

### **Zerks**

4000923	2	Pin, Clevis 1/2x4 1/2"
BP	2	Bridge Pin 1/8"

### **Rear Cyl. Stops**

BH	1	Bolt, Hex 3/4x3" gr8
WFH	1	Washer, Flat, Hard 3/4"
NH	1	Nut, Hex 3/4" gr8

### **Depth Gauge Assembly**

WF	6	Washer, Flat 1/2"
BH	2	Bolt, Hex 1/2x1" gr5
NW	4	Nut, Whiz 1/2"
BH	1	Bolt, Hex 1/2x10" gr5
BH	1	Bolt, Hex 1/2x6" gr5

### **Front Hose Cover @ Hyd. Block**

BC	14	Bolt, Carriage 3/4x1 1/4"
WFH	14	Washer, Flat, Hard 3/8"
NW	14	Nut, Whiz 3/8"

### **Wear Strips To Swing Floor**

NL	1	Nut, Nyloc 5/8" gr5
----	---	---------------------

### **Axle Wrench Hold Down**

BH	8	Bolt, Hex 1/2x1 1/2" gr5
WFH	8	Washer, Flat, Hard 1/2"

### **Front Hose Cover**

Bolt Listing cont.

Component	Qty	Description
BH	8	Bolt, Hex 1x3 1/2" gr8
NH	8	Nut, Hex 1" gr8
WFH	8	Washer, Flat, Hard 1"

**Axle Extender On Optional 26.5 Tires (Not Used On 418)**

BH	8	Bolt, Hex 5/8x2" gr5
WFH	8	Washer, Flat, Hard 5/8"
NH	8	Nut, Hex 5/8" gr8

**Rear Mud Scrapers**

BH	1	Bolt, Hex 1x6" gr8
WFH	1	Washer, Flat, Hard 1"
NL	1	Nut, Nyloc 1" gr5
4000923	1	Pin, Clevis 1/2x4 1/2"
BP	1	Bridge Pin 1/8"

**Gate Safety Stop**

BH	2	Bolt, Hex 1/2x4" gr5
NH	2	Nut, Hex 1/2" gr5
WFH	2	Washer, Flat, Hard 1/2"

**Side Hose Clamps**

# Parts Listing

## 414 S

Ref#	Part #	Description	Qty.
1.	ICO0432	Front Hose Bracket	1
2.	ICO0358	Hose, Spring	3
3.	ICO2172	Cutting Edge, (left side)	1
	ICO2173	Cutting Edge, (right side)	1
4.	ICO0523	Pin, Gate Tapered	2
5.	ICO0219	Pin, 2 1/2" x 11 7/8"	5
6.	ICO1133	Pin, 2 1/2" x 5 3/8"	7
7.	ICO0222	Pin, 2 1/2" x 18 5/8"	1
8.	ICO0295	Gate Link	1
9.	ICO1145	Gate Arm	1
10.	ICO0235	Hose Support	1
11.	ICO1146	Depth Gauge	1
12.	ICO0301	Gate (400 Series)	1
13.	ICO1138	Rear Frame (400 Series)	1
14.	ICO1142	Swing Floor (400 Series, 10/01/06)	1
15.	ICO1141	Main Frame (400 Series)	1
16.	ICO0266	Pin, 1 1/2" x 60 3/4" Floor Pin	2
17.	ICO0340	Swing Floor Wear Strip	2
18.	ICO0267	Floor Hinge Spacer	2
19.	4001295	Tire, 23.5x25 16 ply Titan	2
20.	4001315	Rim, 19.25 (5 pc. for 23.5)	2
21.	ICO0239	Rear Cyl. Stop	2
22.	ICO1147	Gate Safety Stop	1
23.	ICO1144	Front Hyd. Shield	1
24.	2000513	Hub Assy. (29" wide)	2
25.	ICO0488	Axle Clamp w/groove	2
26.	ICO0335	Axle Nut Wrench	1
27.	ICO2112	Tandem Coupler Plate	1
28.	ICO1070	Tandem Drawbar	1
29.	ICO1143	Axle Extension (400 Series) NA w/26.5 tires	2
30.	ICO0254	Rear Pin Spacer	1
31.	ICO0255	Floor Hinge Spacer	1
32.	ICO0244	Lift Cyl. Spacer (rear frame)	2
33.	4000914	Bushing QD 2.5ID SF STL 2.5 (used w/ICO0222)	2
34.	2000460	HD 360 Cast Swivel Hitch	1
35.	4000851	Cutting Edge (7/8x13x35 3/4")	2
36.	4000958	Cutting Edge (7/8x16x48)	1
37.	4000922	Cutting Edge (Rear)	2
38.	4001034	Hyd. Cyl. (6 1/2x22 37 1/4")	1
39.	4001036	Hyd. Cyl. (4x50 63 3/4")	1
40.	4001037	Hyd. Cyl. (5x22 37 1/4")	2
41.	4000419	Manual Holder	1
42.	4000911	Hyd. O-Ring (4 3/8OD-4ID)	2
43.	4000921	Hyd. Valve Block Sequence	1
44.	4000623	Hyd. Pilot Chk Valve CKEB-XCN	1
45.	4000924	Hyd. Counter Valve CBEA-LHN	1

## 400 Series Parts Listing Cont.

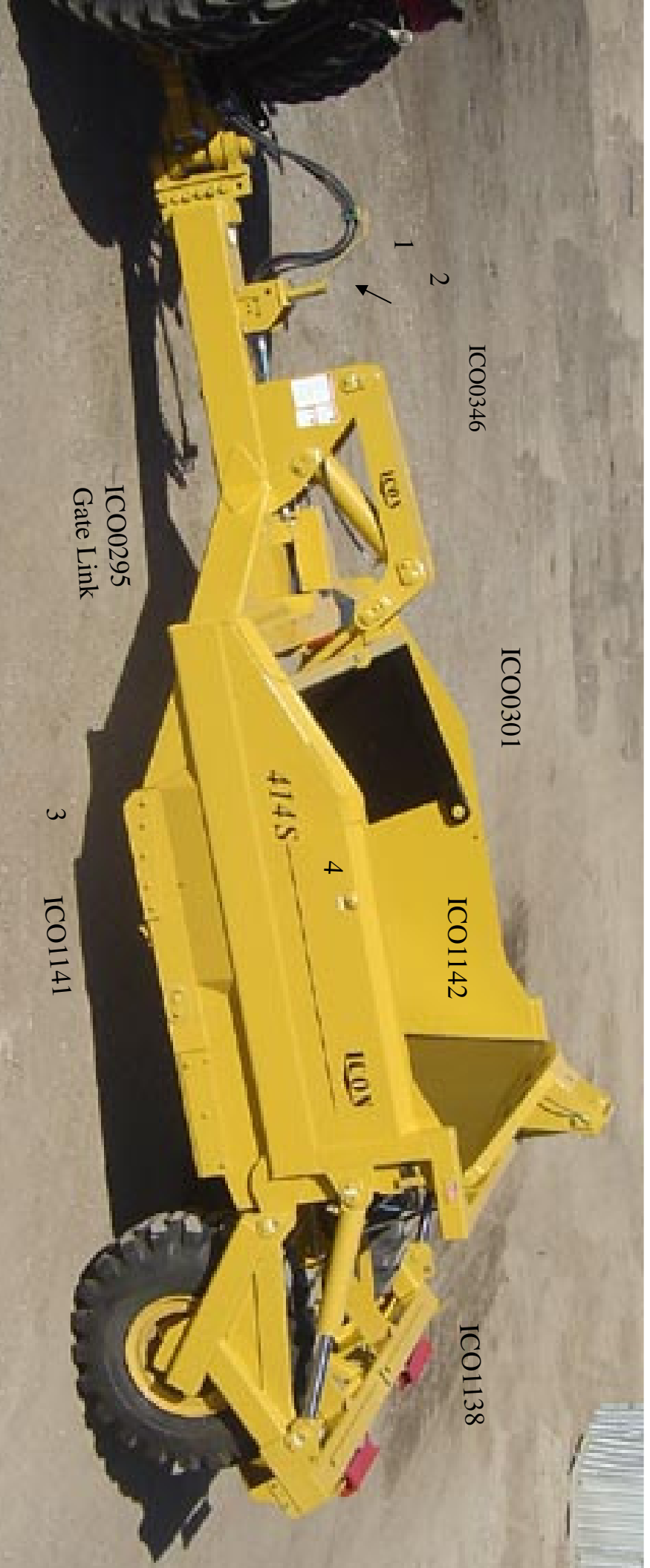
Ref#	Part #	Description	Qty.
46.	4000925	Hyd. Sequence Valve SCEA-LAN	1
47.	9900007	Tandem Rear Hose Supports	2
48.	2000546	Bolt Kit (414S)	1
49.	2000548	Bolt Kit (414T)	1
50.	5001066	Hydraulic Fitting Kit (S)	1
51.	5001067	Hydraulic fitting Kit (T)	1
52.	5001075	Hydraulic Hose Kit (S—2 v)	1
53.	5001076	Hydraulic Hose Kit (T—2v)	1
54.	2000547	Decal Kit 414	1
55.	ICO2113	Front Hydraulic Covers	2
56.	ICO2111	Mud Scrapers	2
57.	ICO0249	Depth Gauge Retainer	1
58.	ICO0257	Clamp, Hyd. Line 2x3 1/2"	4
59.	5000617	Hose Clamp—Plastic	8
60.	5000618	Hose Clamp—Cover Plate	4
61.	4000902	Bushing 300251200	15
62.	4000954	Bushing 300259200	1

### Optional

2000541	23.5 to 26.5 Tire Upgrade
2000542	Aux. Push Block
2000543	Brake Package
2000544	Safety Light Package

### Components Included In Tandem Package

ICO1070	U Assy Tandem Drawbar	
ICO2112	Tandem Coupler Plate	
5000617	Hose, Clamp Plastic	(16)
5000618	Hose, Clamp Covers	(8)
2000545	Tandem Hydraulics	
2000540	Hub Assy 33"	
4001471	Tire, 26.5x25 16ply Titan	
4001272	Rim, 22x25 (5 pc. for 26.5)	



IC00346

IC00301

IC01142

IC01138

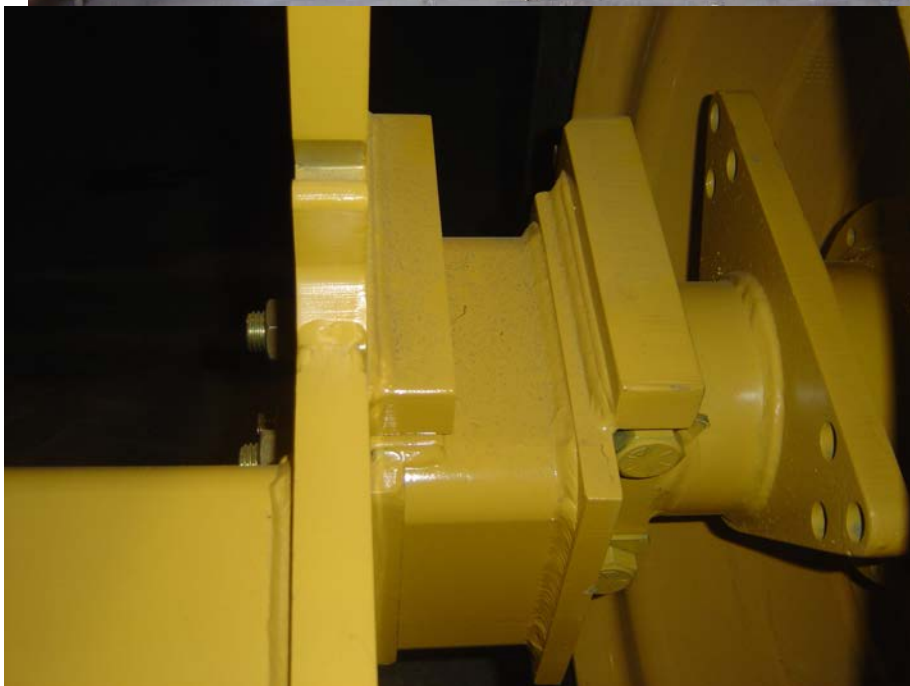
IC00295  
Gate Link

3 IC01141

4



Rear view of the 414S, 2v single, with 23.5 tires



Shown are the spacer blocks used with the 23.5 tires. If the optional 26.5 tires are used, these blocks are not needed, due to longer length of the axles.

## Clam Pivot Pin (ICO0523)



Shown is the ICO0523 Clam Pivot Pin. The tapered pin is threaded for an 1 1/2" nut.  
NOTE: The nut should be torqued to 600 ft. lbs.

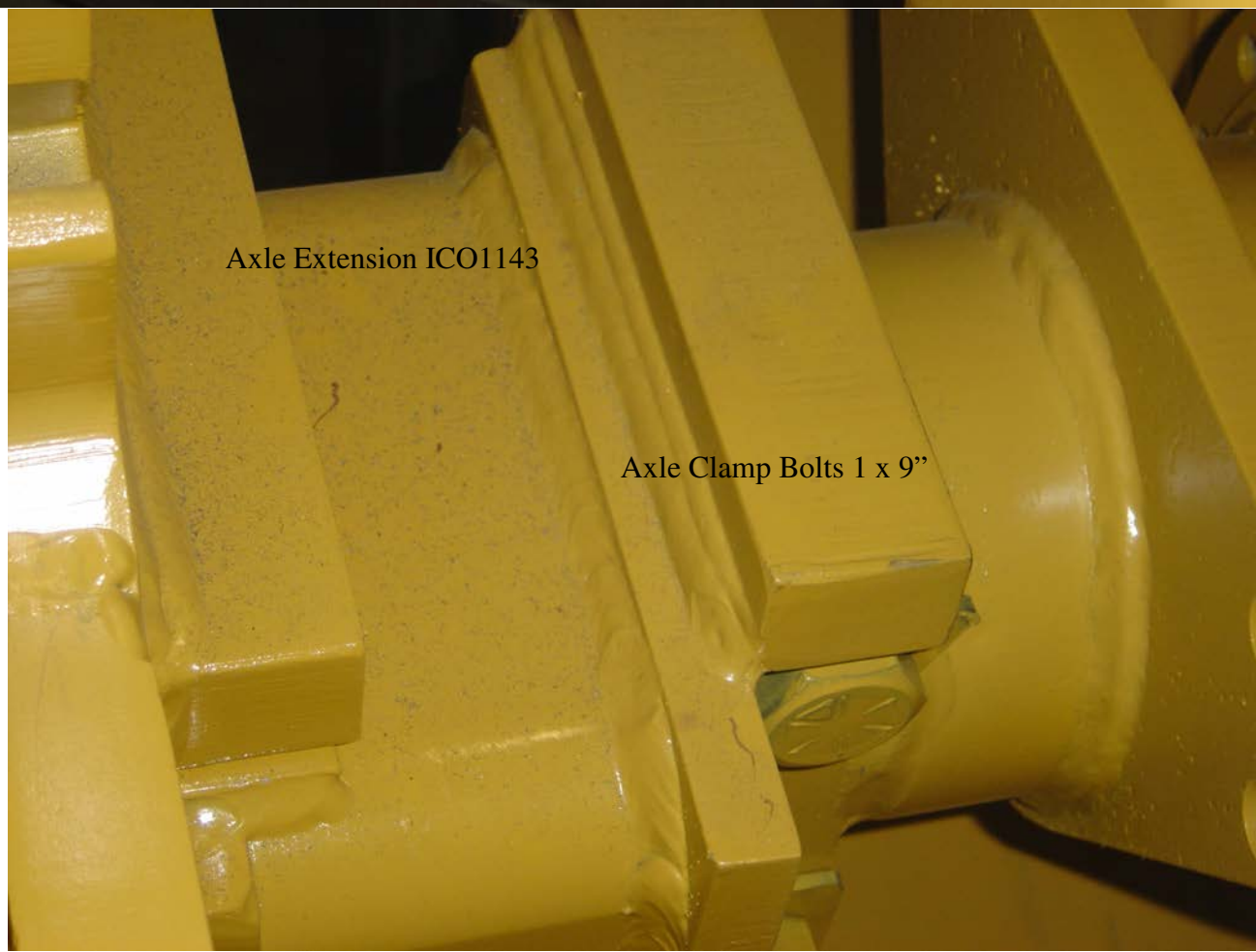


The axle spacer is held in place by (4) 1 x 3 1/2" bolts



Axle Extension ICO1143

Axle Clamp Bolts 1 x 9"





## Components of the 414 Earthmover



## Components (cont.) Center Rear Frame Pin

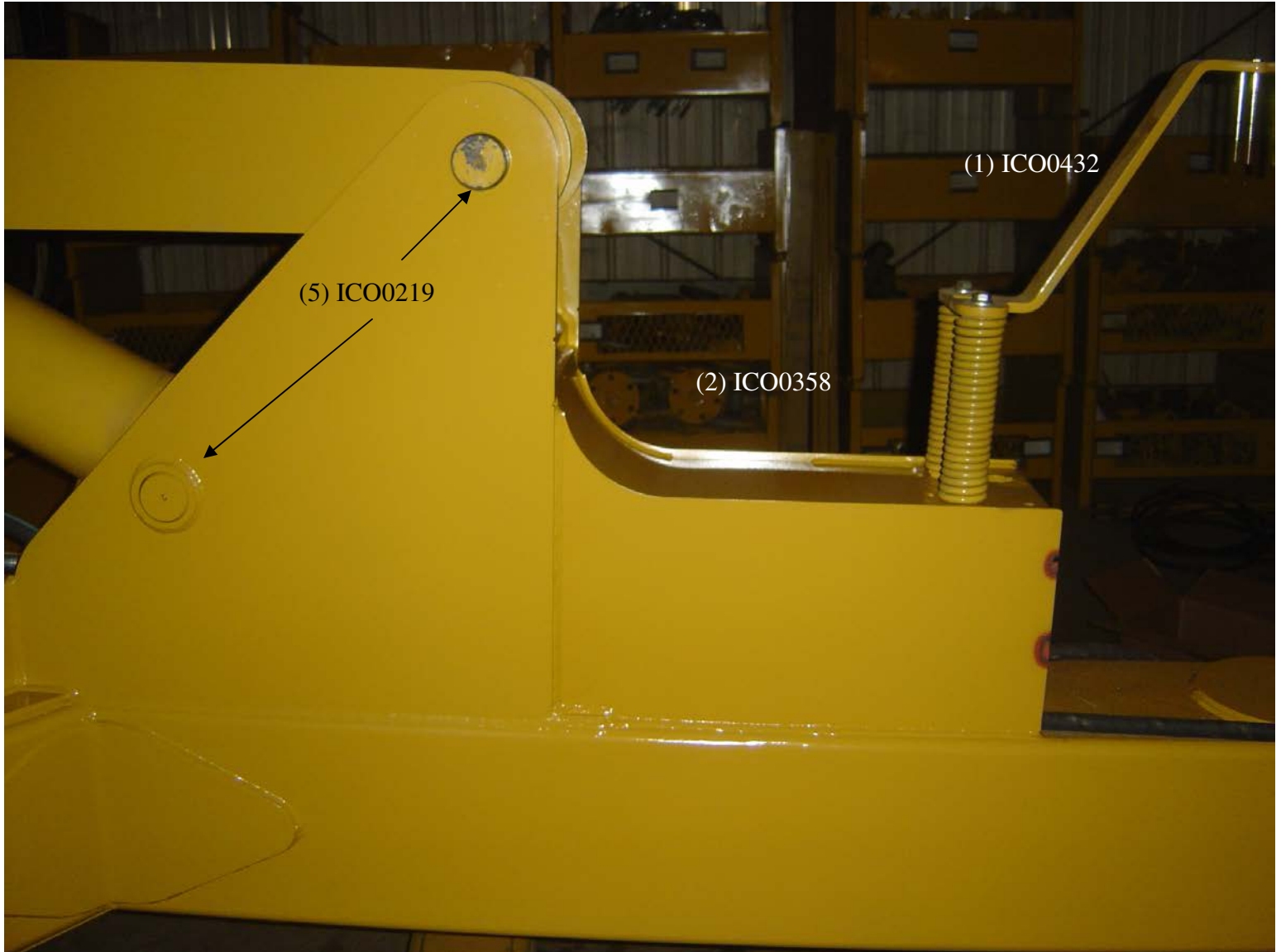


Same center pin configuration  
in tandem operation.





## Front End Components Of 400 Series



418 Rear Frame, shown as single unit. The pin is used for cable attachment, should the machine require being pulled from a stuck situation.

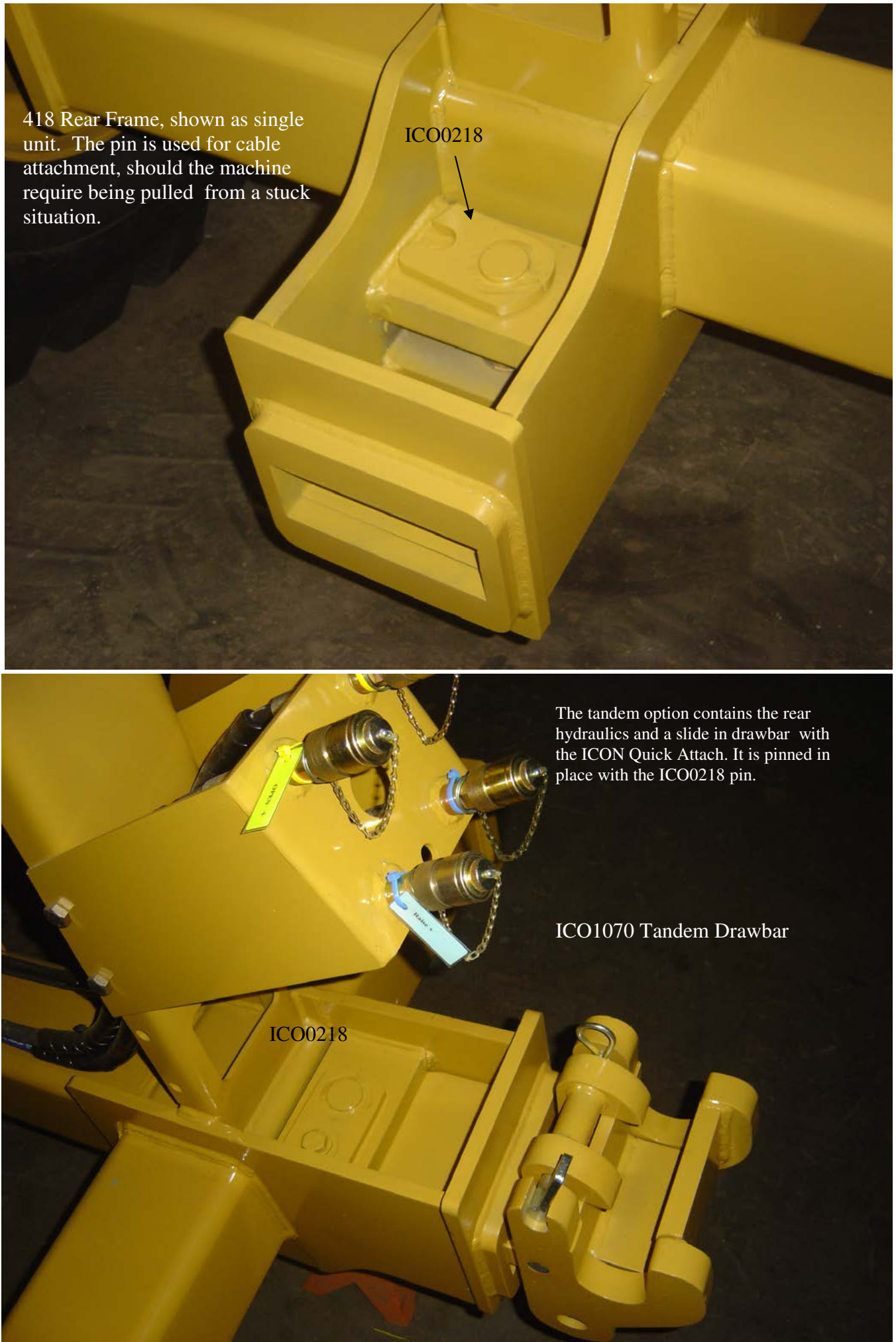
ICO0218



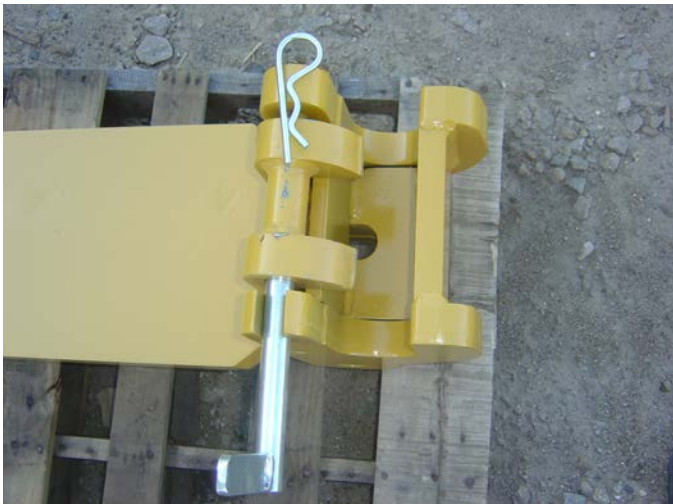
The tandem option contains the rear hydraulics and a slide in drawbar with the ICON Quick Attach. It is pinned in place with the ICO0218 pin.

ICO1070 Tandem Drawbar

ICO0218

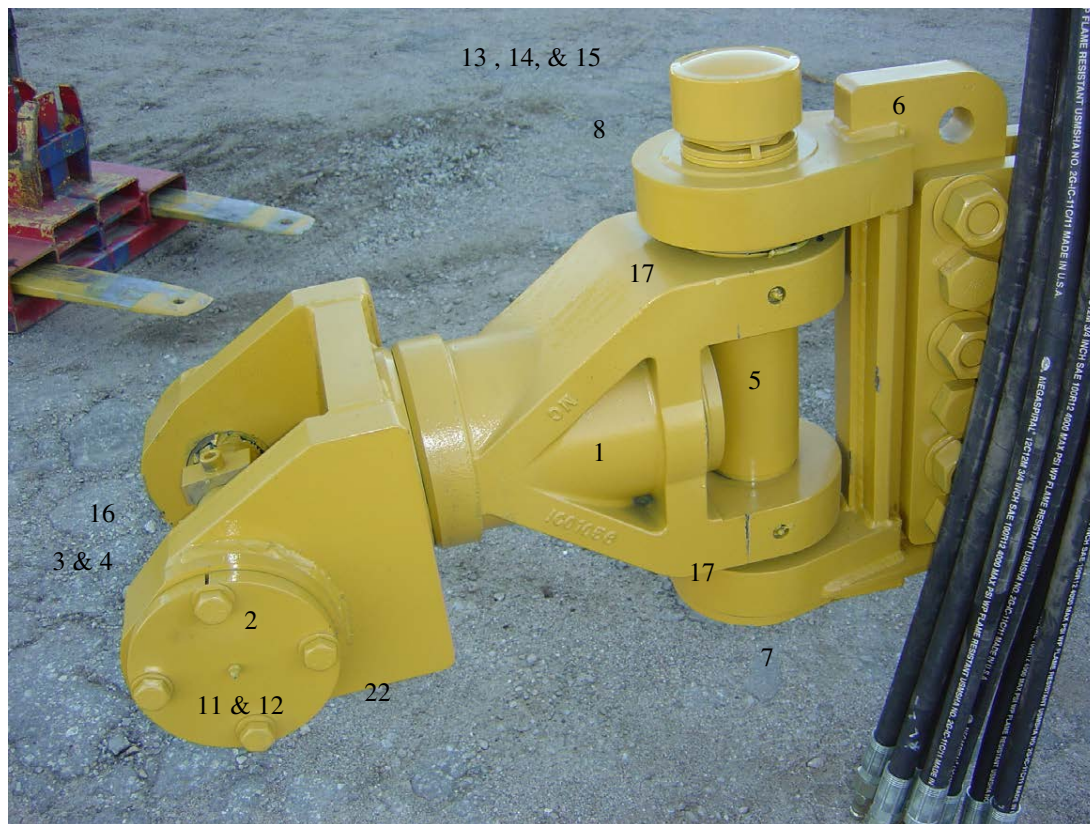


Shown is the Heavy Duty Swivel Hitch. It is standard on the 400 series. It features a full 360 degree rotation, cast yoke style, that attaches to the ICON Quick Attach drawbar. It is rated for 600 hp.



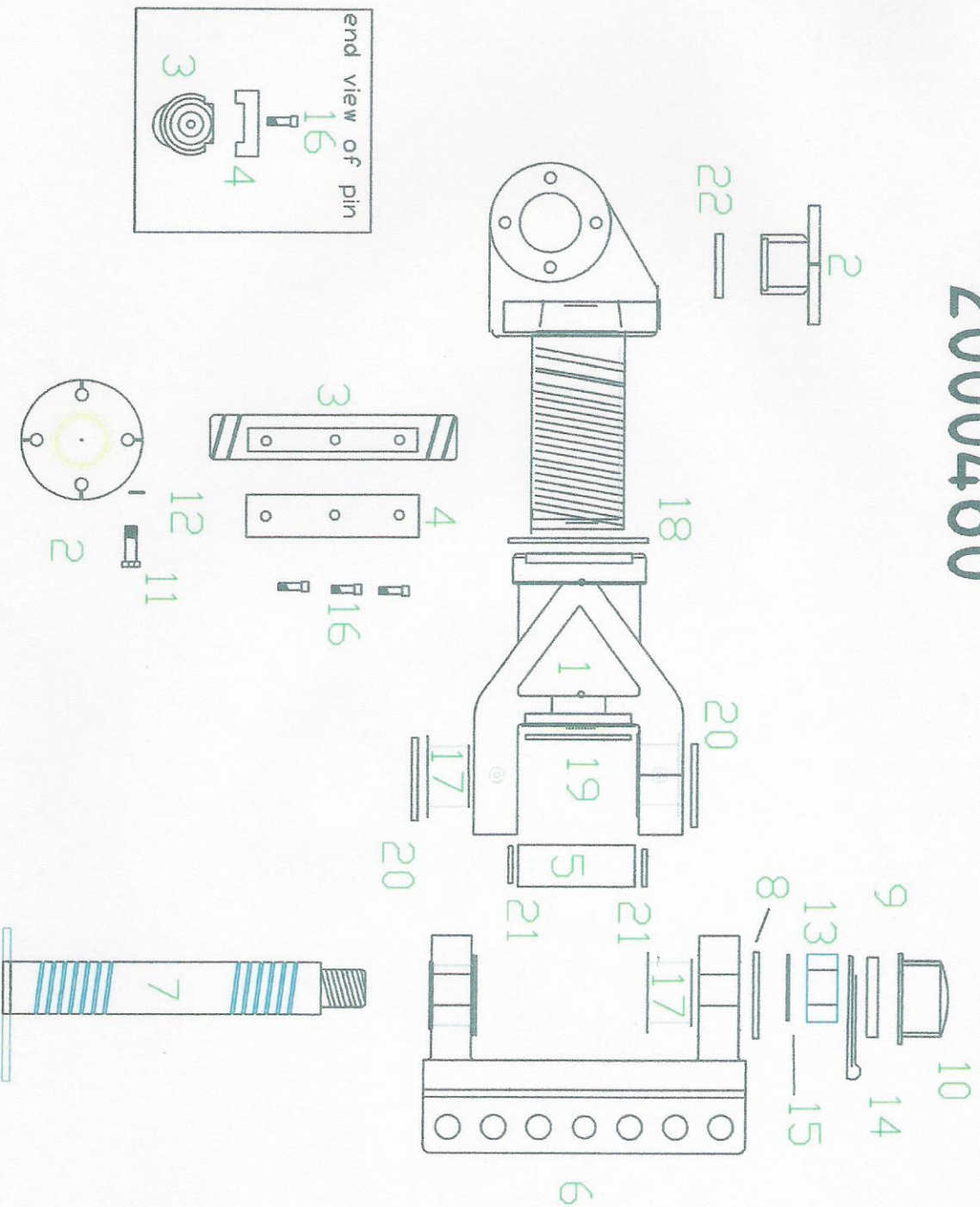
The Quick Attach Drawbar and U assembly





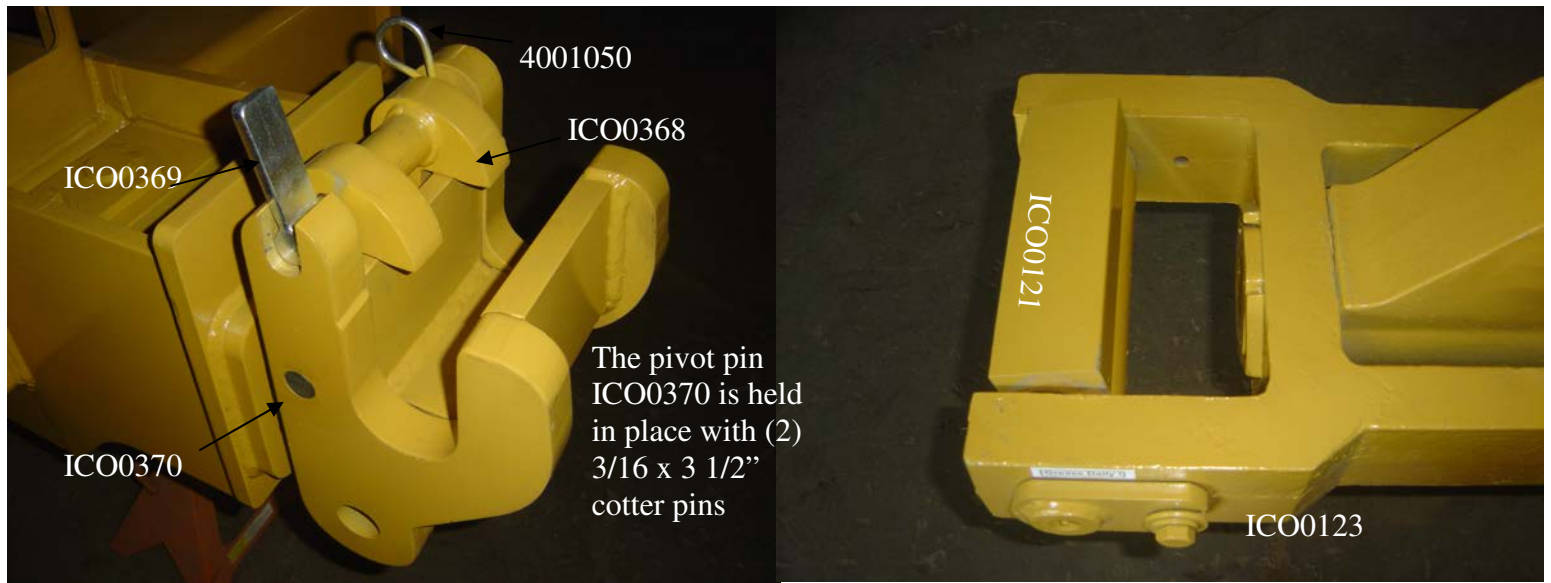
Ref #	Description	Qty	Part #
1	Cast Swivel	1	ICO1092
2	Quick Attach 3" Pin Cap	2	ICO1093
3	Quick Attach 3" Pin	1	ICO2052
4	Quick Attach Pin Keeper	1	ICO2051
5	Hitch Spacer Tube	1	ICO1061
6	Cast Hitch Bracket	1	ICO1055
7	Main Vertical Pin	1	ICO1062
8	6" Swivel Hitch Spacer	1	ICO1086
9	2" Rubber Hose	1	ICO1087
10	4" PVC Cap	1	4001292
11	Bolt, Hex 3/4 x 2" gr. 8	8	BH 3/4
12	Washer, Flat Hard 3/4"	8	WFH 3/4
13	Nut, Slotted 2 1/2" Course	1	NS 2 1/2
14	Pin, Cotter 3/8 x 5"	1	PC 3/8
15	Washer, Flat 2 1/2" Hard	1	WFH 2 1/2
16	Bolt, 5/8 x 3"	3	BH 5/8
17	Bushing	4	4001271
18	O-Ring 8 7/8x8 1/2" ID	1	4001272
19	O-Ring 7 3/8x7" ID	1	4001286
20	O-Ring 5 7/8x 5" ID	2	4001275
21	O-Ring 4 x 3 5/8" ID	2	4001274
22	Wiper Seal 3 1/2 x 3 1/4"	2	4001298

# SUPER DUTY CAST 2000460



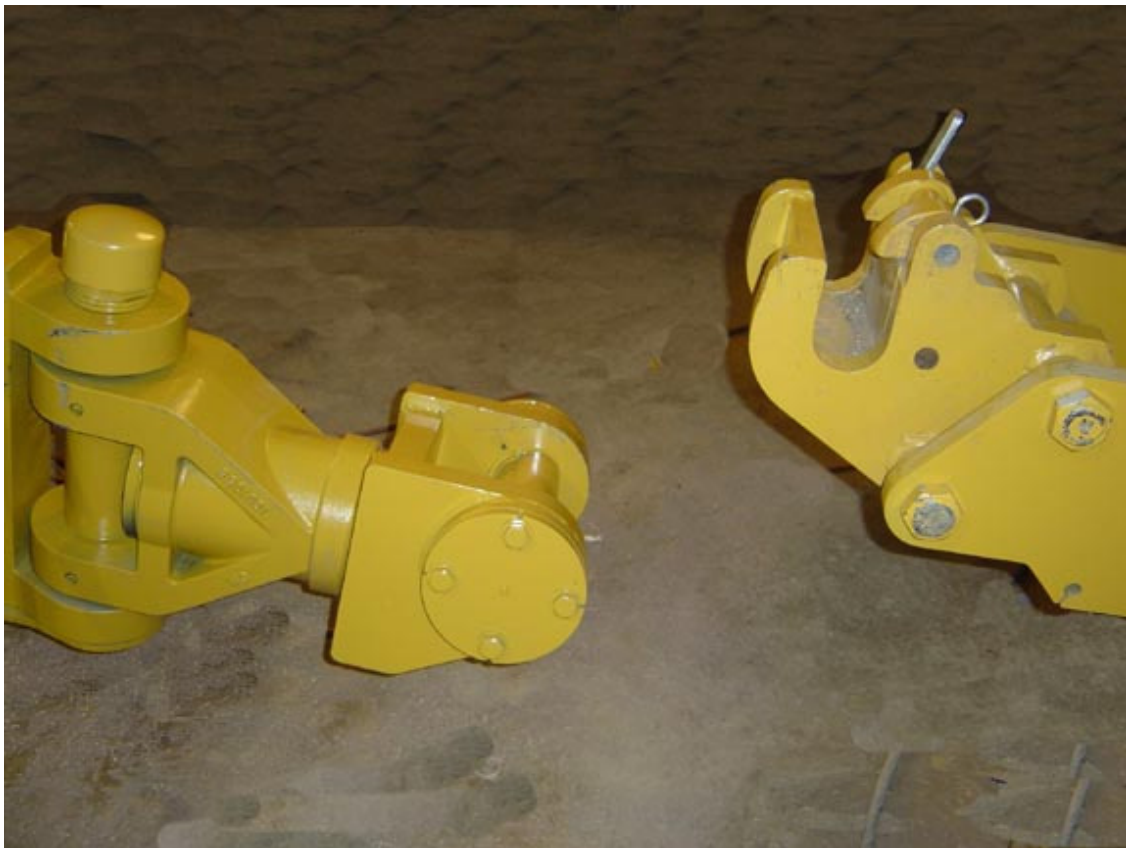


## U Assembly Drawbar and Swivel Hitch

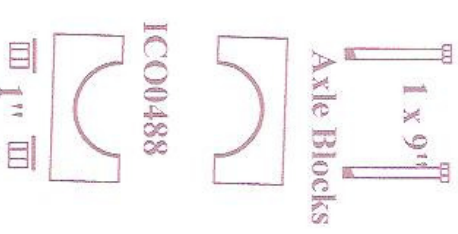
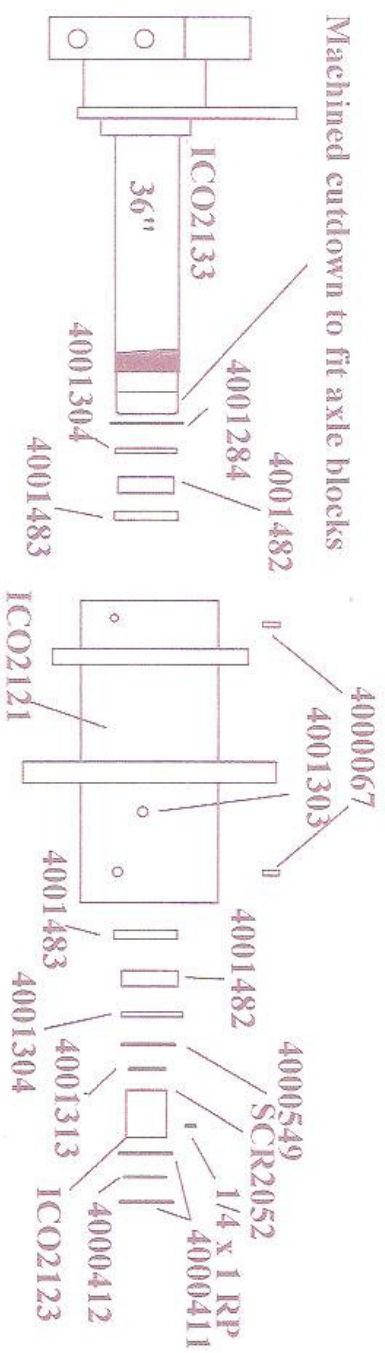


Above are the components of the ICON Quick Attach System. Back the power unit close enough to hook the hydraulic lines. Pull the snap pin, remove the lock down pin and pivot the ears back, out of the way. Hydraulically raise the tongue of the machine, until it clears the u assembly then back the assembly under the hitch, into position. Lower the hitch into the u assembly cradle and pivot the lock down ears over the adapter, replace the lock down pin and snap pin. Hook up is complete.

To dismount the unit, reverse procedure.



# Parts List For ICON Earthmovers With Individual Axles W/O Brakes Assembled - 2000580      Used with 26.5 Tires



Machined step to prevent axle side movement

ICO2133	Axle Assembly	34"
4001313	Snap Ring	
4001304	Bearing Seal CR42627	
4001482	Bearing, Tapered	
4001483	Bearing (Race) Tapered Cup	
ICO2121	Hub 34"	
4000549	Hyd. O-Ring	
SCR2052	Axle Spacer	
4000412	Bearing, Lock Washer	
4000411	Bearing Nut	
4001303	Zerk - 5psi relief	
4000720	Adaptor 1/8-27-1/8mpt 90 el	
5001064	Hyf - coupling 1/8" pipe	
5001091	Hyf - nipple 1/8" x 11"	
5001065	Hyf - nipple 1/8" x 9"	

Machined cutdown to fit axle blocks

4000067  
4001303

4000413  
4001284  
4000414

ICO2011  
ICO1140  
New Seals - 4001304

4000413  
4000414  
4001313  
4000412  
1/4 x 1 RP  
4000411

4000549  
SCR2052

ICO1119  
ICO1139  
New Seals - 4001304

Exploded view diagram of a mechanical assembly. The components and their part numbers are as follows:

- 4000067**: Top cover plate.
- 4001303**: Two vertical support pins.
- 4000414**: Two horizontal support bars.
- 4000413**: Two vertical support pins.
- 4000549**: Two vertical support pins.
- SCR2052**: Two vertical support pins.
- 1/4 x 1 RP**: Two vertical support pins.
- 4000411**: Two vertical support pins.
- 4000412**: Two vertical support pins.
- 4001313**: Two vertical support pins.
- 4001304**: Two vertical support pins.
- New Seals - 4001304**: Two vertical support pins.
- 4001119**: Two vertical support pins.
- 4001139**: Two vertical support pins.

**Axle Blocks**

1 x 9"

IC00488

nut/washer

- |         |                             |
|---------|-----------------------------|
| ICO2011 | Axle Assembly 29"           |
| ICO1140 | Axle Assembly 33"           |
| 4001313 | Snap Ring                   |
| 4001304 | Bearing Seal CR42627        |
| 4000413 | Bearing, Timken Cone        |
| 4000414 | Bearing (Race) Timken Cup   |
| ICO1139 | Hub 34"                     |
| ICO1119 | Hub 29"                     |
| 4000549 | Hyd. O-Ring                 |
| SCR2052 | Axle Spacer                 |
| 4000412 | Bearing, Lock Washer        |
| 4000411 | Bearing Nut                 |
| 4001303 | Zerk - 5psi relief          |
| 4000720 | Adaptor 1/8-27-1/8mpt 90 el |
| 5001064 | Hyf - coupling 1/8" pipe    |
| 5001091 | Hyf - nipple 1/8" x 1 1/2"  |
| 5001065 | Hyf - nipple 1/8" x 9"      |





Wear Strip—ICO0340  
1/2 x 1 1/2” Carriage Bolts (12)

### Cutting Edges

Location	Dimensions	#	CAT #
Side (2)	7/8 x 13 x 35.75	4000851	178-4080
Center	7/8 x 16 x 48	4000958	174-8002

### Bolts Per Blade

4000851 .....6  
4000958.....8

Cutting Edges  
1 x 2 1/2” gr. 8 Plow Bolt  
1” gr. 8 Jam Nuts  
1” Hardened Flat Washers

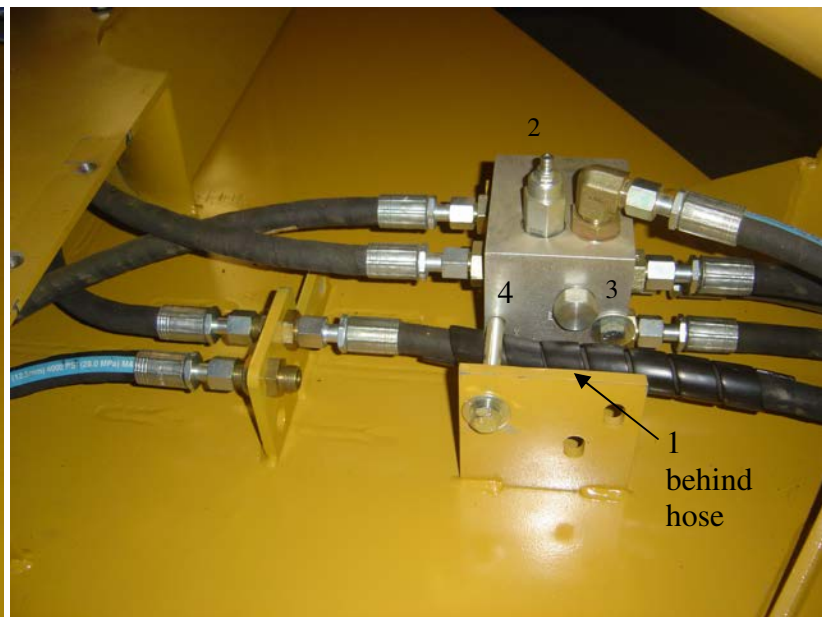
### Side Cutting Edges

ICO0206L & R      Each side requires (5) 3/4 x 2 1/2” Plow Bolts, Hard Washers and Hex Nuts.

## Hydraulics for 2 valve 400 series



The 2 valve sequence block components.  
Valve Seq. Block 4001452 (4)  
Pilot Check Valve CKGB-XCN 4001451 (3)  
Counter Valve CBGB-LHN 4001449 (1)  
Sequence Valve SCGA-LAN 4001450 (2)





## Hydraulic Fitting listing For Single & Tandem 418's Single 5001066

Part #	Description	Qty
5000835	Pioneer Male Ends 8010-16P 10FB	4
5001068	Hyf—Adap 8MFFORx90	2
5001071	Hyf—Adap 12MB-8MFFOR	5
5001070	Hyf—Adap 8MFFOR-12MB90	9
5001072	Hyf—Adap 8MFFORTEEE	2
5001073	Hyf—Adap 8MFFORBH-LN	

### Tandem 5001067

5000835	Hyf-Pioneer Male 8010-16P 10FB	8
5001068	Hyf—Adap 8MFFOR-8FFORx90	2
5001071	Hyf—Adap 12MB-8MFFOR	5
5001072	Hyf-Adap 8MFFORTEEE	2
5001070	Hyf—Adap 8MFFOR-12MB90	9
5001073	Hyf—Adap 8MFFORBH-LN	6
5001014	Hyf—Pioneer FEM END 8250-16	4

**Hydraulic Hose List for Single and Tandem 414 Series  
Single 2V**

Part #	Description	Qty
5001077	Hose, 8FFORX-8C12x177"-10MB	2
5001078	Hose, 8FFORX-8C12x168"-10MB	2
5001079	Hose, 8FFORX-8C12x287"-8FFOR	1
5001080	Hose, 8FFORX-8C12x212"-8FFOR	2
5001081	Hose, 8FFORX-8C12x311"-8FFOR	1
5001082	Hose, 8FFORX-8C12x45"- 8FFORX	1
5001083	Hose, 8FFORX-8C12x37"-8FFORX	1
5001084	Hose, 8FFORX-8C12x124"-8FFOR	1
5001085	Hose, 8FFORX-8C12x70"-8FFORX	1
5001086	Hose, 8FFORX-8C12x30"-8FFORX	1
5001087	Hose, 8FFORX-8C12x130"-8FFOR	1
5001089	Hose, 4FJX-3CITx49"-2MP	2
5001090	Hose, 4FJX-3CITx53"-2MP	1

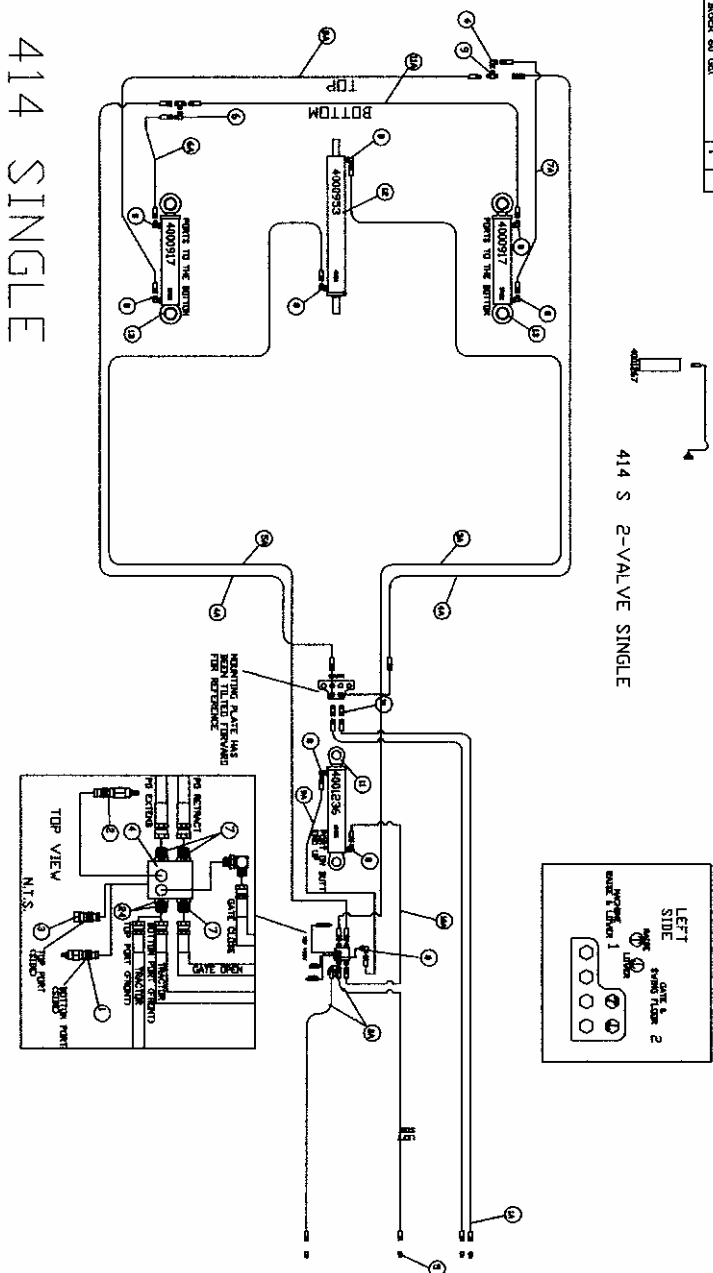
**Tandem (In addition to above)**

5001088	Hose, 8FFORX-8C12x353"-8FFOR	4
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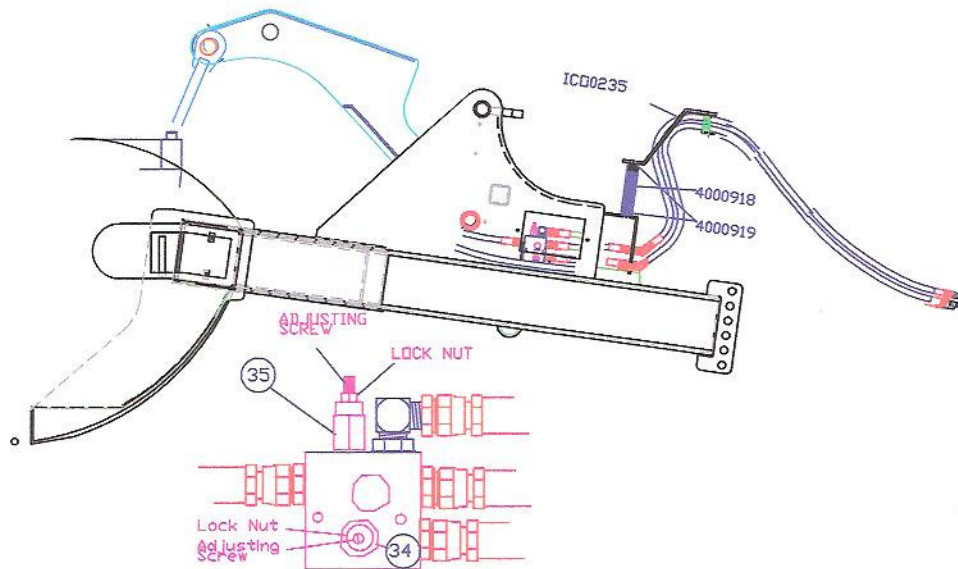
COMPONENT	DESCRIPTION	QTY.	No.
4000924	COUNTER VALVE CBEA-LHN	1	1
4000925	SEQUENCE VALVE SCSA-LAN	1	2
4000623	PILOT CHK VALVE CKEB-XCN	1	3
4000921	VALVE BLOCK	1	4
5000835	PIONEER END 8010-16P	4	5
5001068	8MFFDR-8FFDRX90	2	6
5001071	12MB-8MFFDR	5	7
5001070	8MFFDR-12MB90	9	8
5001072	8MFFDRTEE	2	9
5001073	8MFFDRBH-LN	2	10
4001236	6 X 22 CYLINDER	1	11
4001036	4 X 50 CYLINDER	1	12
4001037	5 X 22 CYLINDER	2	13
			14
			15
COMPONENT	DESCRIPTION DAL	QTY.	No.
5001077	8FFDRX-8C12 x 177"-10MB	2	1
5001078	8FFDRX-8C12 x 168"-10MB	2	2
5001079	8FFDRX-8C12 x 287"-8FFDRX	1	3
5001080	8FFDRX-8C12 x 212"-8FFDRX	2	4
5001081	8FFDRX-8C12 x 311"-8FFDRX	1	5
5001082	8FFDRX-8C12 x 45"-8FFDRX	1	6
5001083	8FFDRX-8C12 x 37"-8FFDRX	1	7
5001084	8FFDRX-8C12 x 124"-8FFDRX	1	8
5001085	8FFDRX-8C12 x 70"-8FFDRX	1	9
5001086	8FFDRX-8C12 x 30"-8FFDRX	1	10
5001087	8FFDRX-8C12 x 130"-8FFDRX	1	11

COMPONENT	DESCRIPTION	QTY.	No.
4001442	COUNTER VALVE CBEA-LHN	1	1
4001450	SEQUENCE VALVE SCSA-LAN	1	2
4001451	PILOT CHK VALVE CKEB-XCN	1	3
4001452	VALVE BLOCK 68 DAL	1	4

Optional Block/Valves



## Valve Adjustment 2 - valve hydraulics



## Valve Adjustment

Problem:

Push wall comes forward before gate is fully up.

Answer:

- \*Loosen locknut on top of valve
- \*Adjust sequence valve 1/4 turn clockwise and check performance.
- \*Repeat until remedied
- \*Retighten locknut

Problem:

Gate comes down before push wall is fully back.

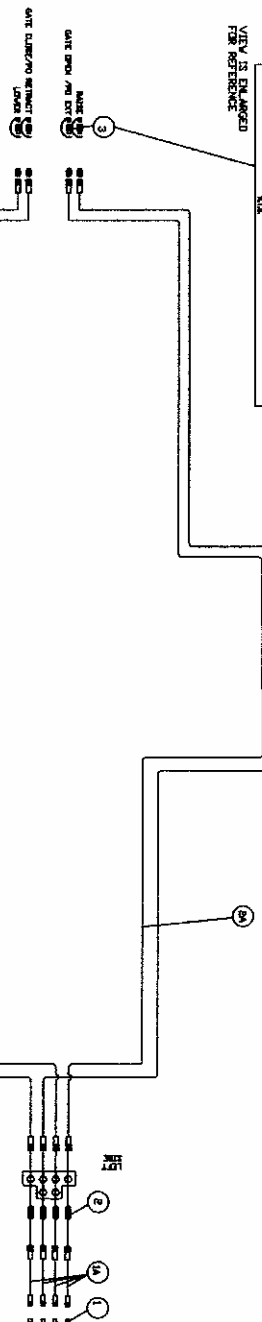
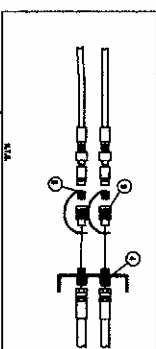
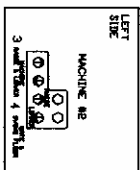
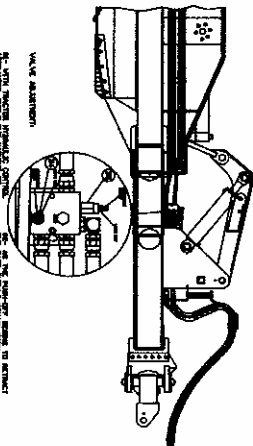
Answer:

- \*Adjust counterbalance valve (located on side of valve block in tongue)
- \*Loosen locknut on top of valve
- \*Adjust counterbalance valve 1/4 turn counterclockwise and check performance.
- \*Repeat until remedied
- \*Retighten locknut.

## 414 TANDEN

COMPONENT	DESCRIPTION	QTY.	NO.
50000935	PIONEER MALE 80L-16P 10MB	4	1
5001073	8WF-DRBH-LN	4	2
5001014	PIONEER FEMALE 1/2-10MB	4	3
5001069	10MB-8WFTR	4	4

WELDS ON IT IS IN  
IC02112



	DESCRIPTION	DAL	QTY.	No.
5001077	8FFDRX-8C12	×177'-10MB	4	1
5001088	8FFDRX-8C12	×353'-8FFDRX	4	2
				3
				4
				5
				6
				7
				8
				9
				10
				11
				12
				13

414T 2-VALVE TANDEM

[illegible]

Seal Kit # 4000961



6 x 22

#4001236

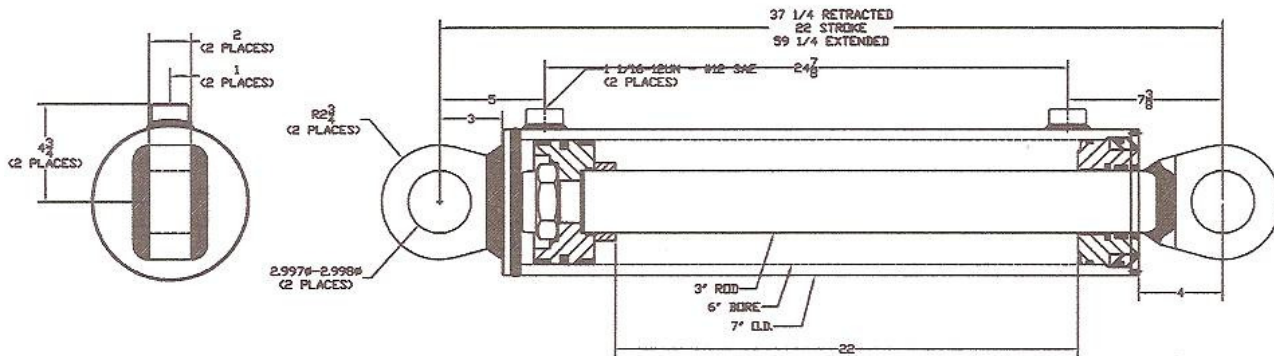
Seal Kit #4001434

## Seal Kit and Component List

# 4001236

6" x 22" cylinder

ICON Seal Kit #4001434



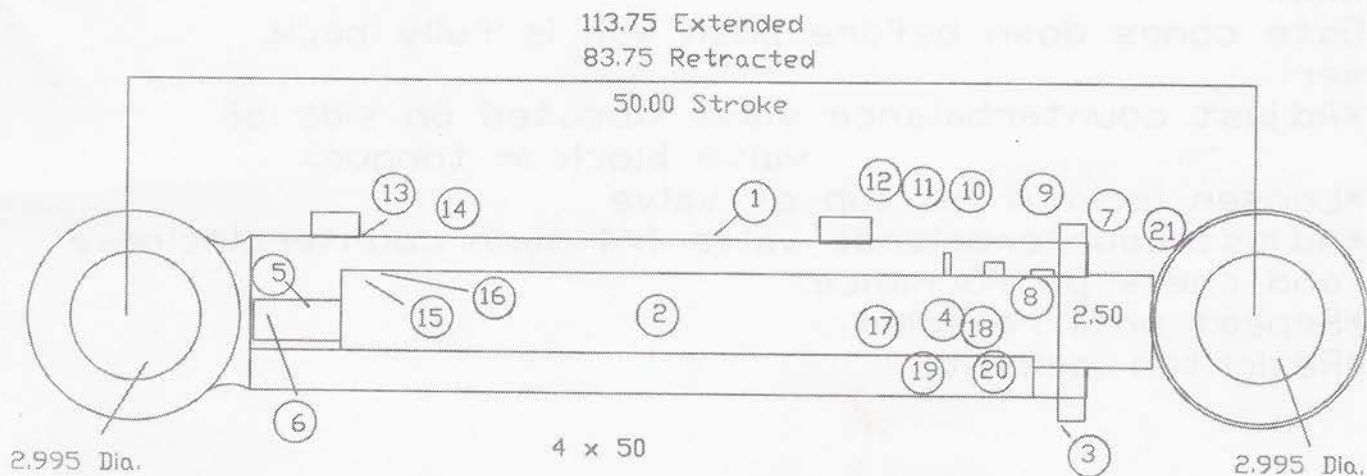
Ref#	Qty	Part#	Description
1	1	1040819	Case Weldment 6.00 32.750L
2	1	1046821	Rod Weldment 3.00 33.250L
3	1	1040822	Threaded Ring 6.250 12B 5.063
4	1	1040823	Head Gland 6.00 3.00 2.875L Duct
5	1	1040824	Piston 6.00 2.031 2.875L
6	1	27731	Spacer 3.010 4.00 .750L
7	1	77051	Locknut 2.00-12 NTU NYL insert
8	2	80243	SHSS #10-32 .375L Cup
9	1	76981	O-Ring 250 5.250D 70N .125CS
10	1	77627	O-Ring 163 6.188D 70N .094CS
11	1	30010	Plug, Nylon .313D .250L
12	1	126699	Backup 358 6.00D 90N .188CS
13	1	126698	O-Ring 358 6.00D 70N .188CS
14	1	156540	Seal, Teflon 6.000 5.095 .379
15	2	156541	W ring 6.00 5.50 .625L SK BRZ
16	2	76989	Backup 234 3.250D 9BN .125CS
17	1	76976	O-Ring 234 3.250D 70N .125CS
18	1	156188	W Ring 3.120 3.00 .980L BC
19	1	81489	Buffer Seal 3.00 .22W SQ
20	1	77450	U Cup 3.00 .250 .375 PDSA 9250
21	1	32644	UCB G 3.020 3.495 .125 NYT
22	1	79035	Wiper 3.00R .250CS .313L CAN

# Seal Kit and Component List

#4000953 4.00" Bore/2.50" Rod 4001036 w/bushings  
4 x 50" Cylinder (Used on D Models)

ICON Seal Kit #4000964 Will Contain #'s (8 thru 21)  
All Other Parts Special Order

Ref#	Qty	Part#	Description	Size
1.	1	4001012	Case Weldment	4"
2.	1	4001011	Rod Weldment	2.50"
3.	1	4001010	Thread Ring	4"
4.	1	4001009	Head Gland	4"
5.	1	4001008	Piston	4"
6.	1	4001007	Nut	4"
7.	2	4000998	Set Screw	#10-32UNF
8.	1	4000997	O-Ring	3.50ID
9.	1	4000996	O-Ring	4.00ID x 3/32CS
10.	1	4000976	Nylon Plug	.31 Dia. x .25LG
11.	1	4000995	Back Up	4.00OD
12.	1	4000994	O-Ring	4.00OD
13.	1	4000993	Teflon Seal	4.00OD
14.	2	4000992	Wear Ring	4.00OD x .63LG
15.	2	4000991	O-Ring	2.50ID
16.	1	4000990	Back Up	2.50ID
17.	1	4000989	Wear Ring	2.50ID x .98LG
18.	1	4000988	Buffer Seal	2.50ID
19.	1	4000987	U - Cap	2.50ID
20.	1	4000986	Back Up	2.50 x .13LG
21.	1	4000985	Wiper, Lip Type	2.50ID





### ICON and CAT Crossover Part #'s For 5x22/5x40 KAYDON Cyl's

Ref #	Description	Size	ICON #	CAT #
11.	Back Up	5.00ODx3/16 CS	4000975	9X7279
12.	O-Ring	5.00ODx3/16 CS	4000974	5P4326
13.	Teflon Seal	5.00OD	4000973	5J5020
14.	Wear Ring	5.00ODx.63 LG	4000972	660 BRZ
15.	Back Up	3.00IDx1/8 CS	4000971	8J2574
16.	O-Ring	3.00IDx1/8 CS	4000970	1H7339
17.	Wear Ring	3.00IDx.98 LG	4000969	8C9161
18.	Buffer Seal	3.00ID	4000968	8C9126
19.	U-Cup	3.00ID	4000967	5J8300
21.	Wiper, Lip Type	3.00ID	4000965	3E4170

### ICON and CAT Crossover Part #'s For 4 x 50 KAYDON Cyl's

Ref#	Description	Size	ICON #	CAT #
11.	Back Up	4.00OD	4000995	2K6830
12.	O-Ring	4.00OD	4000994	1H8128
13.	Teflon Ring	4.00OD	4000993	5J5402
14.	Wear Ring	4.00 x .63LG	4000992	660 BRZ
15.	O-Ring	2.50ID	4000991	1H5728
16.	Back Up	2.50ID	4000990	4J9225
17.	Wear Ring	2.50ID x .98LG	4000989	8T0785
18.	Buffer Seal	2.50ID	4000988	8C3839
19.	U-Cup	2.50ID	4000987	5J0964
21.	Wiper, Lip Type	2.50ID	4000985	3E4166

### ICON and CAT Crossover Part #'s For 6.5 x 22 KAYDON Cyl's

Ref#	Description	Size	ICON #	CAT #
11.	Back Up	6.38OD x 3/16CS	4000982	7J8956
12.	O-Ring	6.38OD x 3/16CS	4000981	7J8955
13.	Teflon Seal	6.50OD	4000980	5J4991
14.	Wear Ring	6.50OD x .63LG	4000979	660BRZ
15.	Back Up	3.00ID x 1/8CS	4000971	8J2574
16.	O-Ring	3.00ID x 1/8CS	4000970	1H7339
17.	Wear Ring	3.00ID x .98LG	4000969	8C9161
18.	Buffer Seal	3.00ID	4000968	8C9126
19.	U-Cup	3.00ID	4000967	5J8300
21.	Wiper, Lip Type	3.00ID	4000965	3E4170

## Decal Set For 400 Series

Part #	Description	Qty
1 4000931	Decal, "Warning" High Pressure	2
2 4000935	Decal, "Safety/Operation/Parts"	1
3 4000937	Decal, "3 Pumps Of Grease Weekly"	2
4 4000938	Decal, "Grease Daily"	26
5 4000940	Decal, "Danger" Pinch	4
6 4000941	Decal, " Danger" To Prevent A Hazard	1
7 4000960	Decal, "ICON" 4" (Both sides)	4
8 4001473	Decal, Depth Gauge	1
9 4000396	Decal, Gate Gauge A-B-C-D-E	1
10 4000702	Decal, Reflective Tape	4pc. 18"
11 4000949	Decal, Hyd. Hose Color Code	1
12 4001435	Decal, Tire Pressure/Torque (26.5 -23.5)	2
13 4001445	Decal, Safety Stops	3
14 4001446	Decal, Remove Safety Stops	3
15 4001248	Decal, Horsepower Limits (400) (500 on 418)	1
16 4000372	Decal, Caution, Moving Parts	4
17 4001432	Decal, USA Flag	2
18 4001415	Decal, Made in USA	2
19 4001495	Decal, 400 Series (414-416-418)	1 set
20 4001477	Decal, T (tandem) or S (single)	2
21 4001497	Decal, Graphic Side Stripes	1 set

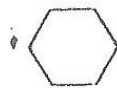




## TORQUE VALUES CHART - PLATED HARDWARE

Bolt Diameter	Grade 2		Grade 5		Grade 8	
	Course	Fine	Course	Fine	Course	Fine
1/4"	50 In. Lbs.	56 In. Lbs.	76 In. Lbs.	87 In. Lbs.	9 Ft. Lbs.	10 Ft. Lbs.
5/16"	8 Ft. Lbs.	9 Ft. Lbs.	13 Ft. Lbs.	14 Ft. Lbs.	18 Ft. Lbs.	20 Ft. Lbs.
3/8"	15 Ft. Lbs.	17 Ft. Lbs.	23 Ft. Lbs.	26 Ft. Lbs.	33 Ft. Lbs.	37 Ft. Lbs.
7/16"	25 Ft. Lbs.	27 Ft. Lbs.	37 Ft. Lbs.	41 Ft. Lbs.	52 Ft. Lbs.	58 Ft. Lbs.
1/2"	35 Ft. Lbs.	40 Ft. Lbs.	57 Ft. Lbs.	64 Ft. Lbs.	80 Ft. Lbs.	90 Ft. Lbs.
9/16"	50 Ft. Lbs.	60 Ft. Lbs.	80 Ft. Lbs.	90 Ft. Lbs.	115 Ft. Lbs.	130 Ft. Lbs.
5/8"	70 Ft. Lbs.	80 Ft. Lbs.	110 Ft. Lbs.	125 Ft. Lbs.	160 Ft. Lbs.	180 Ft. Lbs.
3/4"	130 Ft. Lbs.	145 Ft. Lbs.	200 Ft. Lbs.	220 Ft. Lbs.	280 Ft. Lbs.	315 Ft. Lbs.
7/8"	125 Ft. Lbs.	140 Ft. Lbs.	320 Ft. Lbs.	350 Ft. Lbs.	450 Ft. Lbs.	500 Ft. Lbs.
1"	190 Ft. Lbs.	205 Ft. Lbs.	480 Ft. Lbs.	530 Ft. Lbs.	675 Ft. Lbs.	750 Ft. Lbs.
1 1/8"	285 Ft. Lbs.	300 Ft. Lbs.	600 Ft. Lbs.	670 Ft. Lbs.	960 Ft. Lbs.	1075 Ft. Lbs.
1 1/4"	375 Ft. Lbs.	415 Ft. Lbs.	840 Ft. Lbs.	930 Ft. Lbs.	1360 Ft. Lbs.	1500 Ft. Lbs.
1 3/8"	490 Ft. Lbs.	560 Ft. Lbs.	1100 Ft. Lbs.	1250 Ft. Lbs.	1780 Ft. Lbs.	2030 Ft. Lbs.
1 1/2"	650 Ft. Lbs.	730 Ft. Lbs.	1450 Ft. Lbs.	1650 Ft. Lbs.	2307 Ft. Lbs.	2670 Ft. Lbs.

NOTE: Unplated bolts should be torqued approximately 1/3 higher than the above values. Bolts having lock nuts should be tightened to approximately 50% of amounts shown in chart. Bolts lubricated prior to installation should be torqued to 70% of value shown on chart.



Grade 2  
No Marks



Grade 5  
3 Marks



Grade 8  
6 Marks

**Tire Pressure:**

<b>20.5 x 25</b>	<b>- 58 psi</b>
<b>23.5 x 25</b>	<b>- 44 psi</b>
<b>26.5 x 25</b>	<b>- 44 psi</b>
<b>29.5 x 25</b>	<b>- 48 psi</b>

**Wheel Bolt Torque - 450 ft. Lbs. (Check after 30 hrs.)**

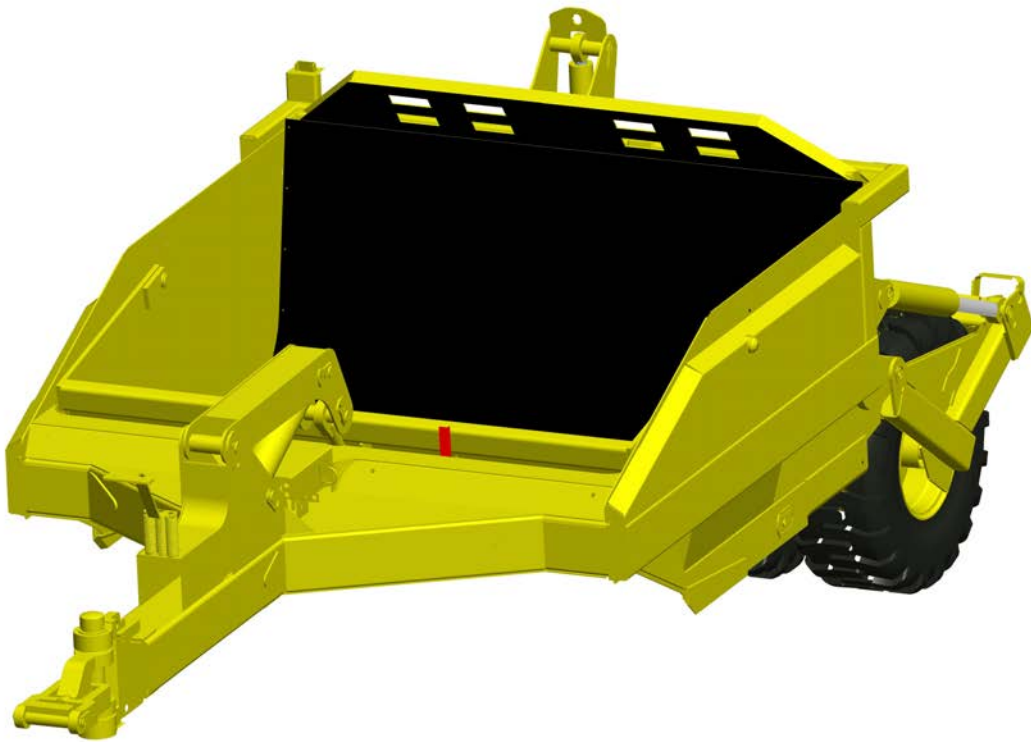


# WARNING

**Tire repair should be done by qualified personnel.  
Mount or dismount of heavy ply tires can be dangerous!**

ICON

418 Rear Lowering Earthmover



Parts & Service



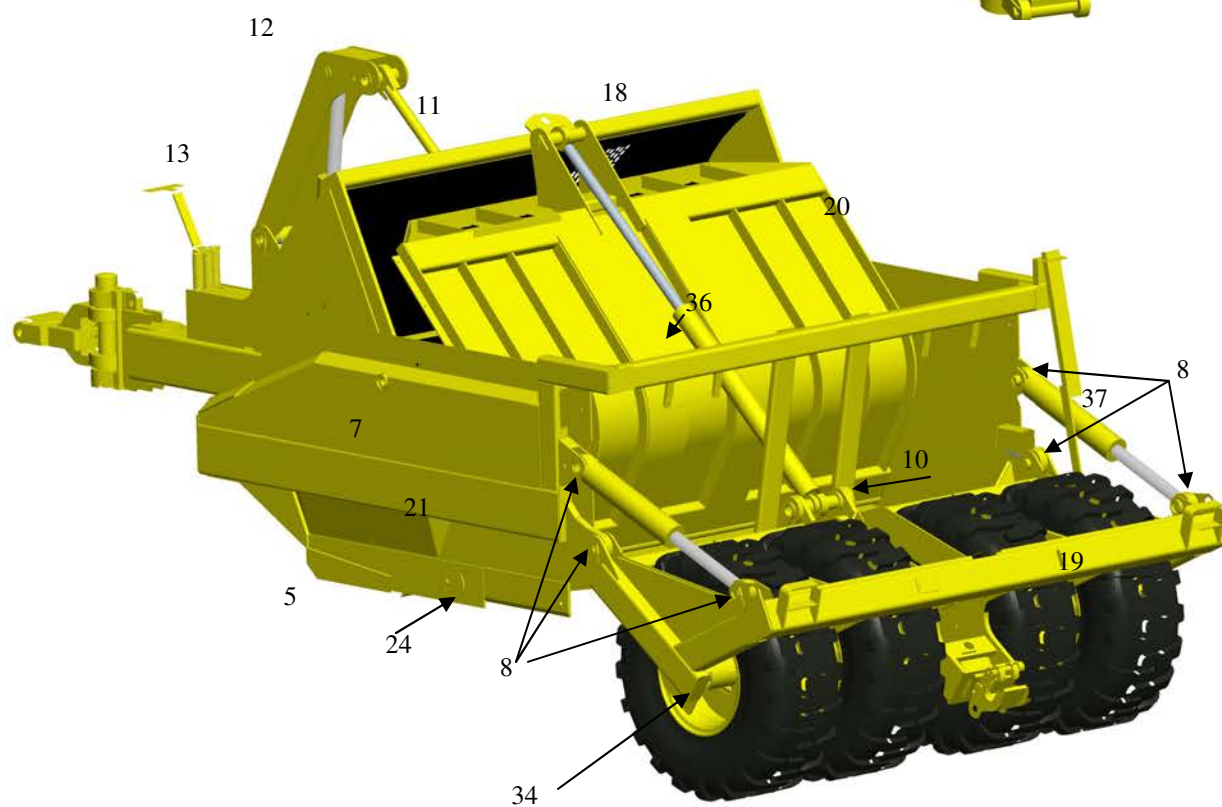
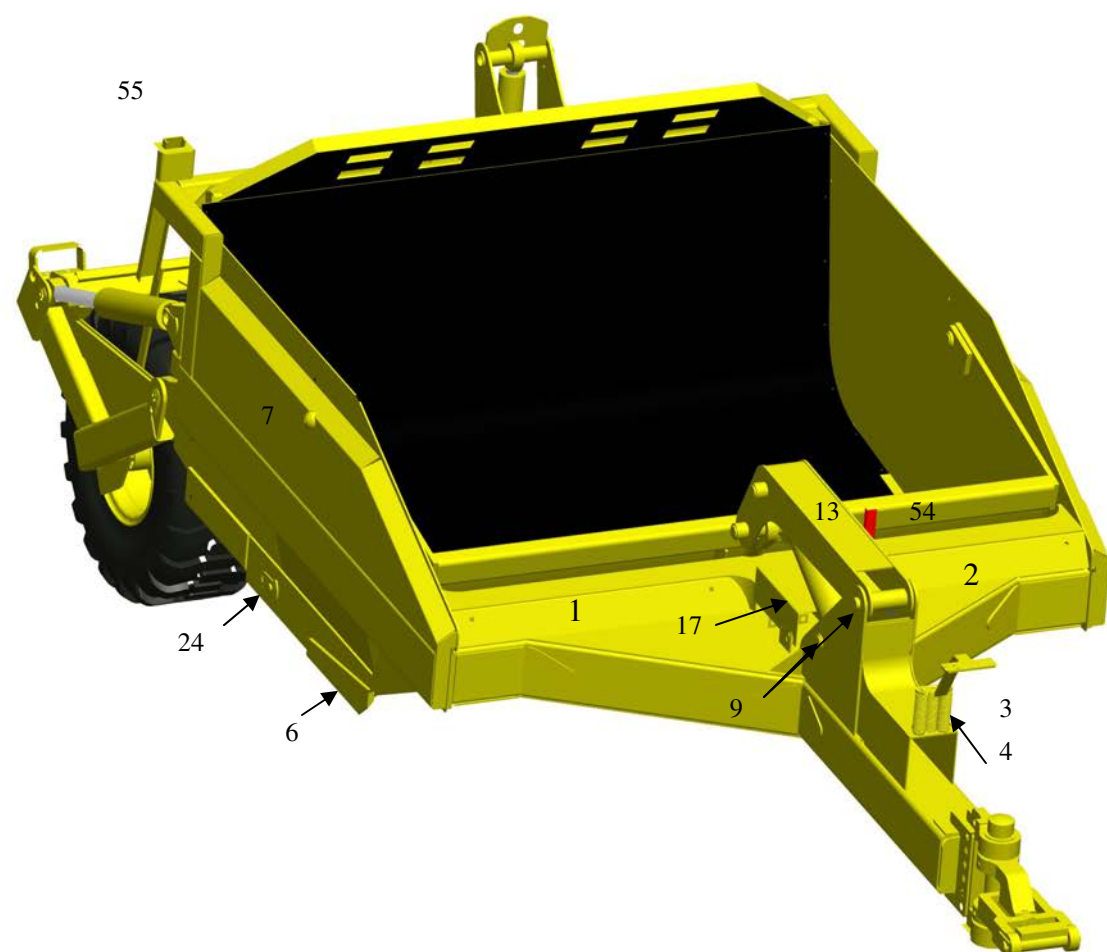
## 418 Parts Listing

Item #	Part #	Description	Qty
1.	ICO2151	Front Hose Cover (r side)	1
2.	ICO2152	Front Hose Cover (l side)	1
3.	ICO0432	Front Hose Bracket	1
4.	ICO0358	Hose Spring Assy.	3
5.	ICO2172	Cutting Edge (left side)	1
6.	ICO2173	Cutting Edge (right side)	1
7.	ICO0523	Tapered Gate Pin	2
8.	ICO1133	Pin, 2 1/2"x5 3/4" Ball Joint	7
9.	ICO0219	Pin, 2 1/2"x11 7/8"	5
10.	ICO0222	Pin, 2 1/2"x18 5/8"	1
11.	ICO0295	Gate Link	1
12.	ICO0346	Gate Arm	1
13.	ICO0235	Hose Support	1
14.	ICO0239	Rear Cyl. Stop	2
15.	ICO0244	Lift Cyl. Spacer	4
16.	ICO1144	Hyd. Shield	1
17.	2000461	MD Cast Swivel Hitch (optional)	1
18.	ICO0250	Gate	1
19.	ICO2118	Rear Frame	1
20.	ICO2119	Swing Floor	1
21.	ICO2117	Main Frame	1
22.	ICO0254	Rear Pin Spacer	1
23.	ICO0255	Floor Hinge Spacer	1
24.	ICO0256	Floor Pin, 1 1/2" x 66 3/4"	2
25.	ICO0257	Hyd. Line Clamp	4
26.	ICO0340	Swing Floor Wear Strip	2
27.	ICO0267	Floor Hinge Spacer	2
28.	ICO0335	Axle Nut Wrench	1
29.	ICO2113	Axle Bolt Spacer	4
30.	4000914	Bushing QD 2.5ID SF STL 2.5	2
31.	ICO0488	Axle Clamp w/groove	4
32.	4000636	Tire, 20.5x25-16 ply	4
33.	4000657	Rim, 17x25 3 pc assy.	4
34.	2000512	Hub Assy. 28" wide	4
35.	4001034	Hyd Cylinder 6 1/2x22- 36 1/4"	1
36.	4001036	Hyd. Cylinder 4x50 - 63 3/4"	1
37.	4001037	Hyd. Cylinder 5x22 - 37 1/4"	2
38.	4000851	Cutting Edge, 7/8x13x35.75"	2
39.	4000951	Cutting Edge 7/8x16x60"	1
40.	4000922	Rear Cutting Edge	2
41.	4000419	Manual Holder	1
42.	4001449	Hyd. Counter Valve CBGB-LHN	1
43.	4001450	Hyd. Sequence Valve SCGA-LAN	1
44.	4001451	Hyd. Pilot CHK Valve CKGB-XCN	1
45.	4001452	Hyd. Valve Block Seq. #3	1
46.	4001267	2 Gallon Accumulator	1
47.	9300901	Accumulator Mount	2
48.	ICO0464	Accumulator Mount	1
49.	ICO0205	Gate Spacer	4
50.	ICO0350	Gate Link Spacer	2
51.	ICO1118	Pin Spacer 9/16"	8
52.	ICO1117	Pin Spacer 7/8"	5
53.	SCR2078	Wheel Bolt Spacer	40

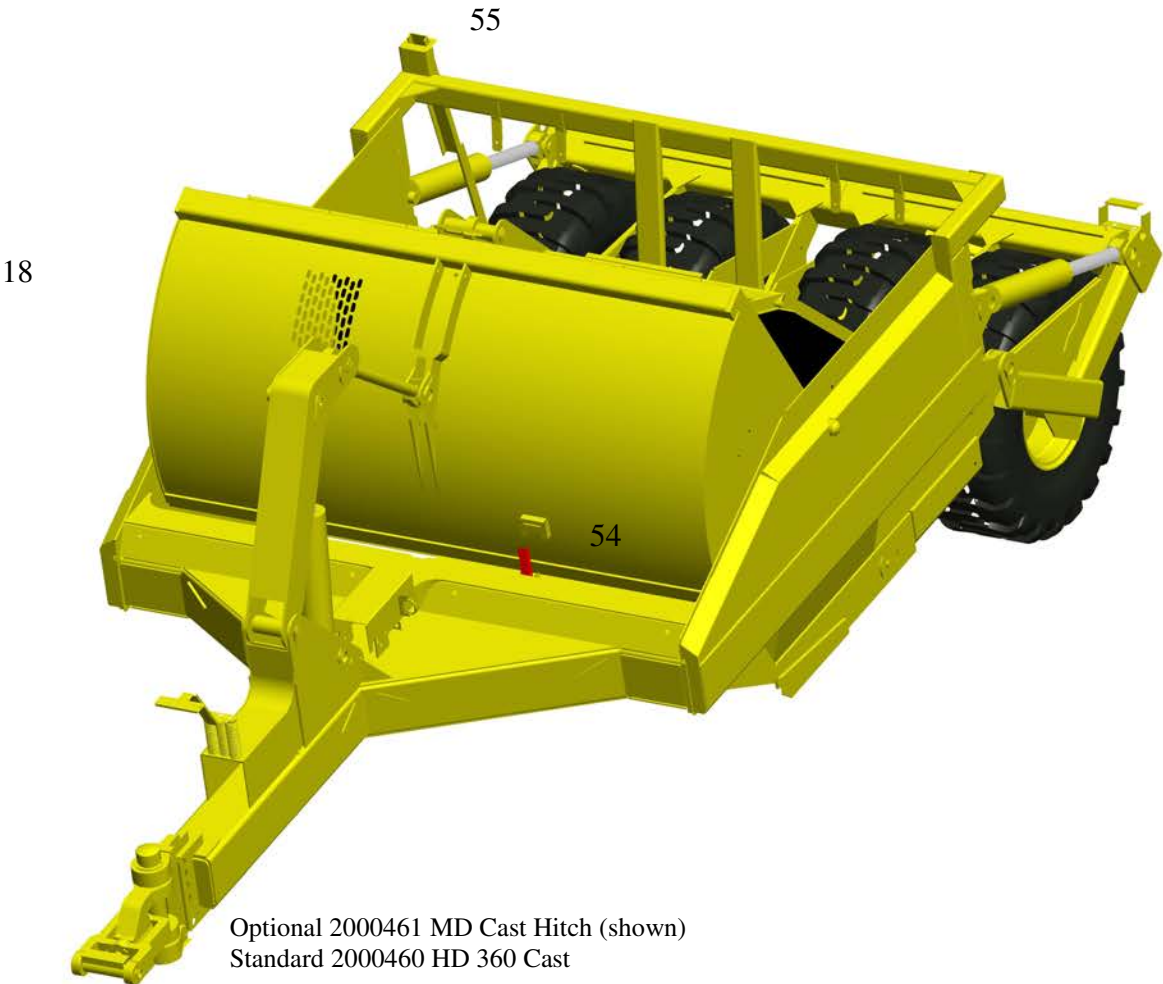
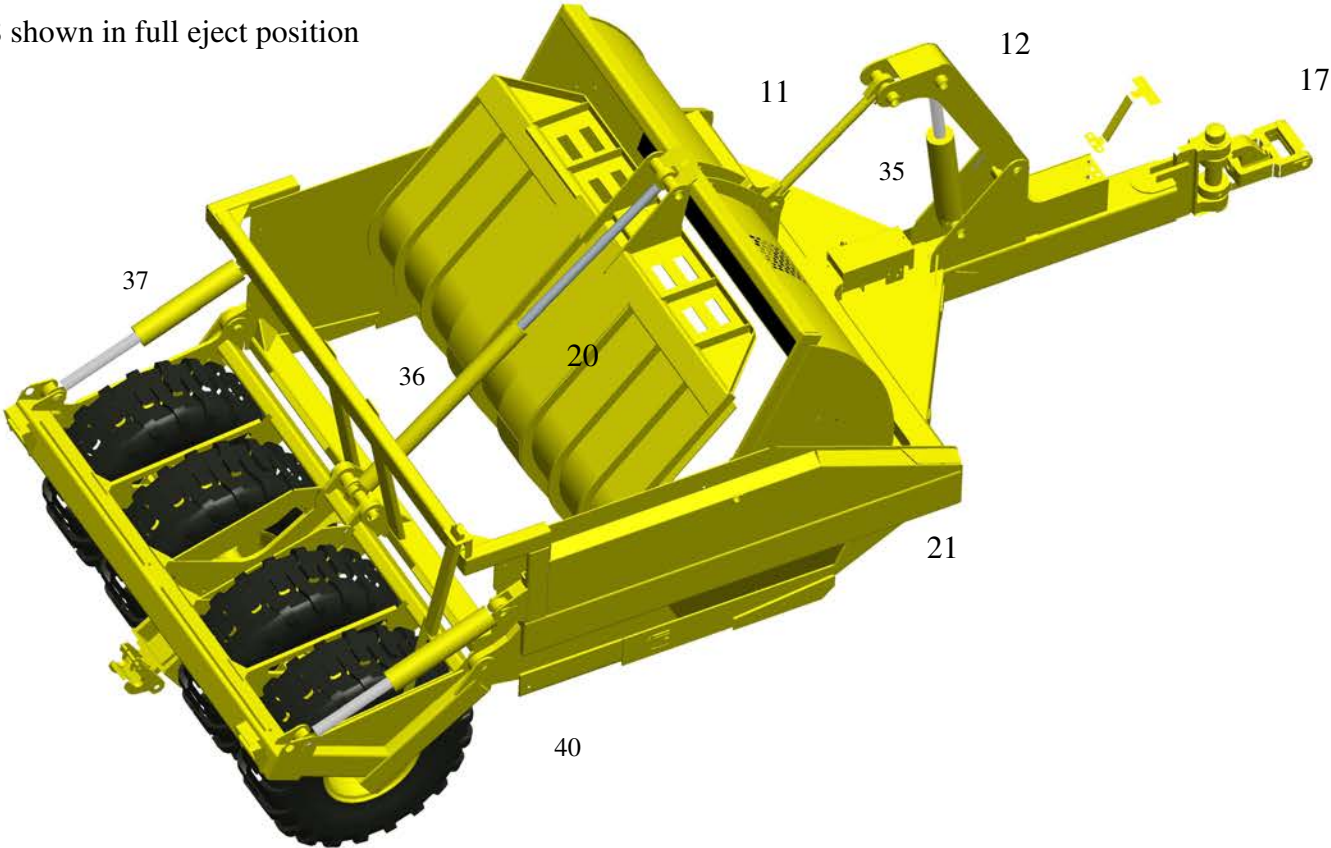
# 418 Parts Listing - Cont.

54.	ICO1147	Gate Stop	1
55.	ICO1146	Depth Gauge	1
56.	2000470	(Option) Brake Assy	1
57.	2000587	(Option) Potentiometer	1
58.	2000585	(Option) Potentiometer Tractor	1
59.	2000460	SD Swivel Hitch	1
60.	5001092	Kit, Hyd. Fittings (single)	1
61.	5001094	Kit, Hose (single 2v)	1
62.	2000551	Kit, Bolt 418 single	1
63.	2000547	Kit, Decal 400 series	1
64.	2000203	Kit, Lights	1
65.	ICO2021	Brake Line Shield	2
66.	ICO2053	821 Axle Nut	8

Parts Listing

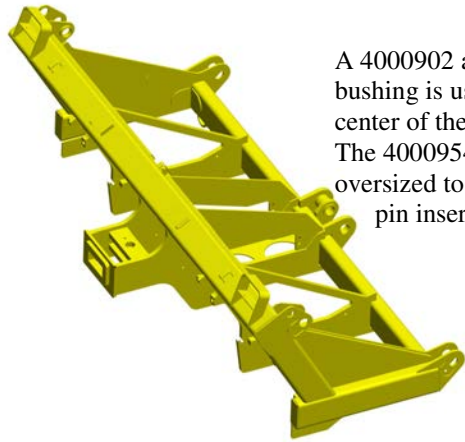


418 shown in full eject position



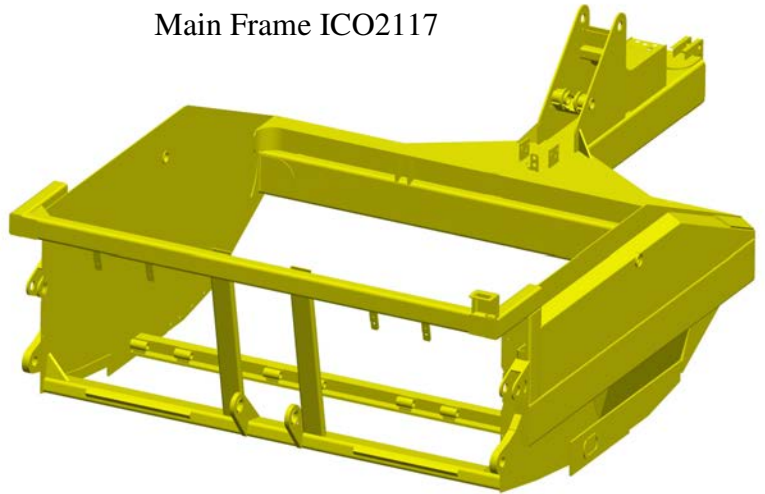
Optional 2000461 MD Cast Hitch (shown)  
Standard 2000460 HD 360 Cast

Rear Frame ICO2118



A 4000902 and 4000954 bushing is used in the center of the rear frame. The 4000954 is slightly oversized to allow easier pin insertion.

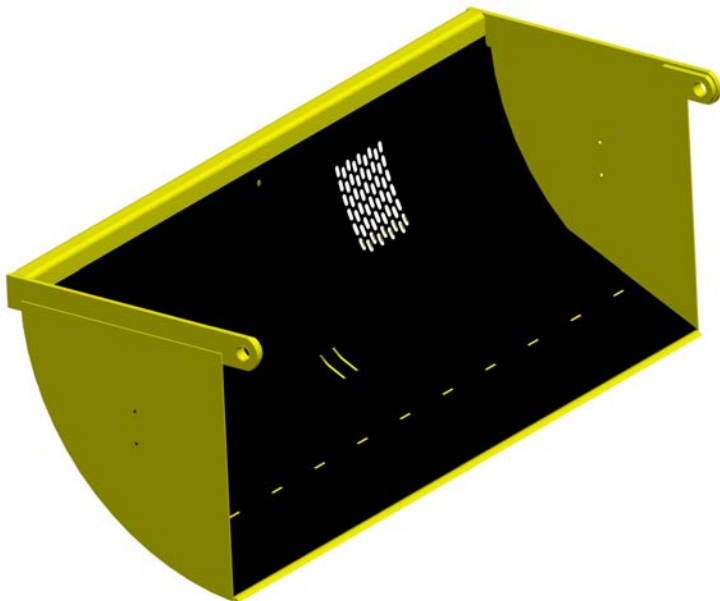
Main Frame ICO2117



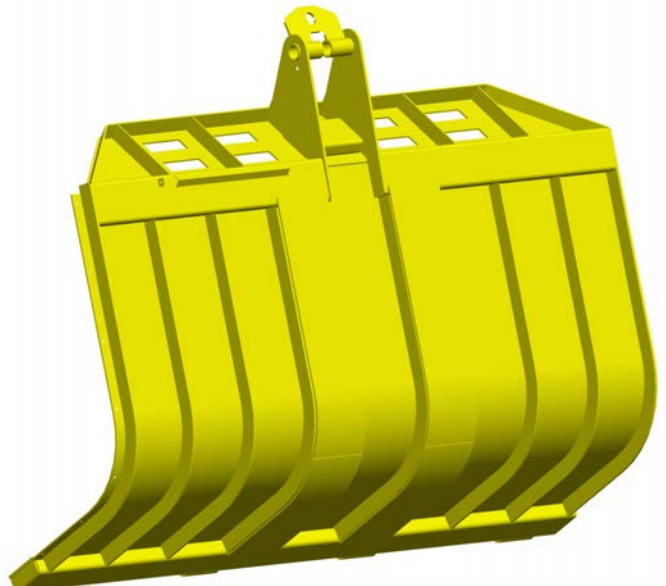
Rear frame mounts to main frame using ICO1133 pins at each side and a center frame pin ICO0222 and (2) 4000419 bushings

ICO0250 Gate.

Attaches to the main frame with (2) ICO0523 tapered pins. These should be torqued to 650lbs.

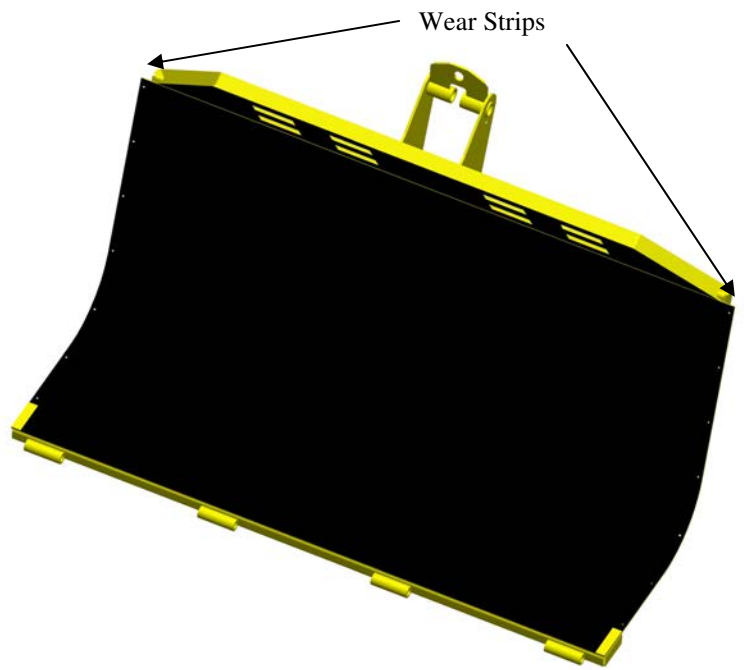


The swing floor ICO2119. The cylinder attaches at the top and allows the floor to pivot on (2) ICO0256 pins, inserted at the bottom.

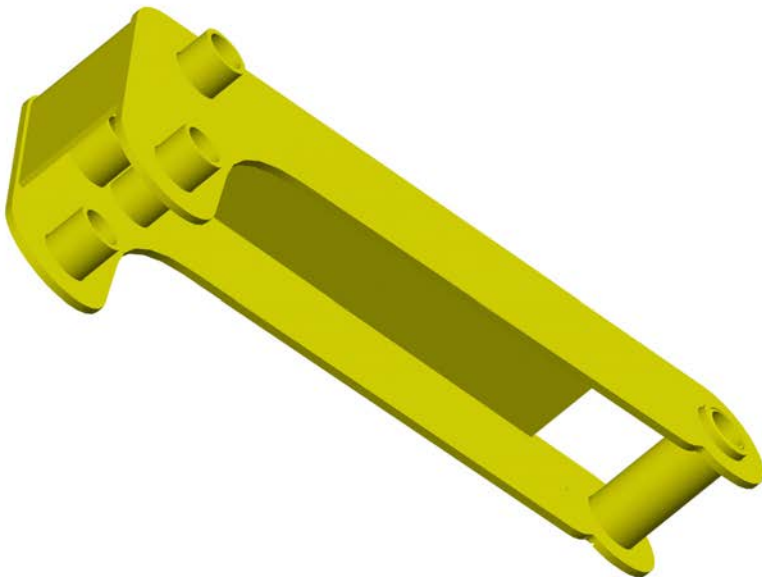




Front view of the swing floor. The mounts for the floor pins can be seen, along with the side wear strip (ICO0340) mounting holes.



Gate Arm (ICO0346)



Gate Link (ICO0295)



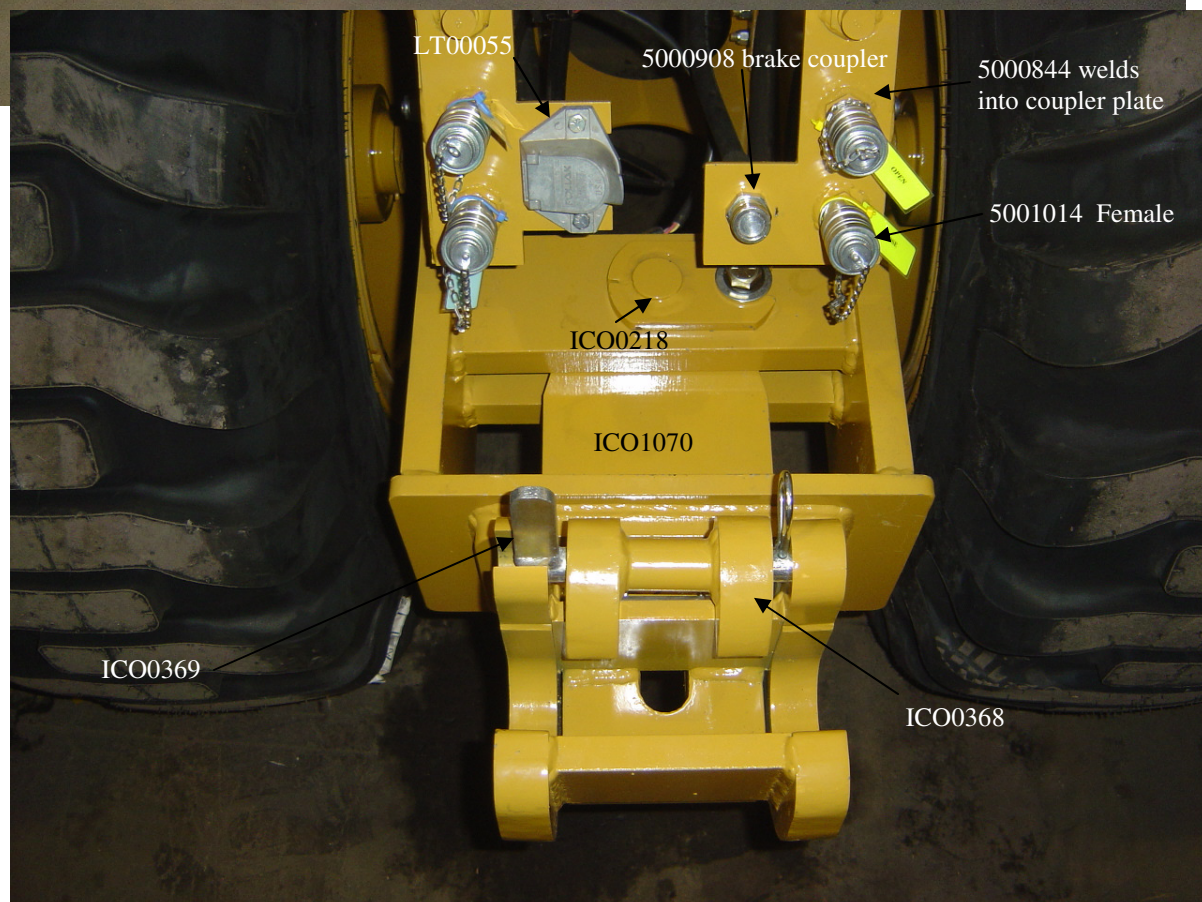
Components of the 418













The Super Duty Cast Hitch is standard on all Models  
A Medium Duty Option is available.

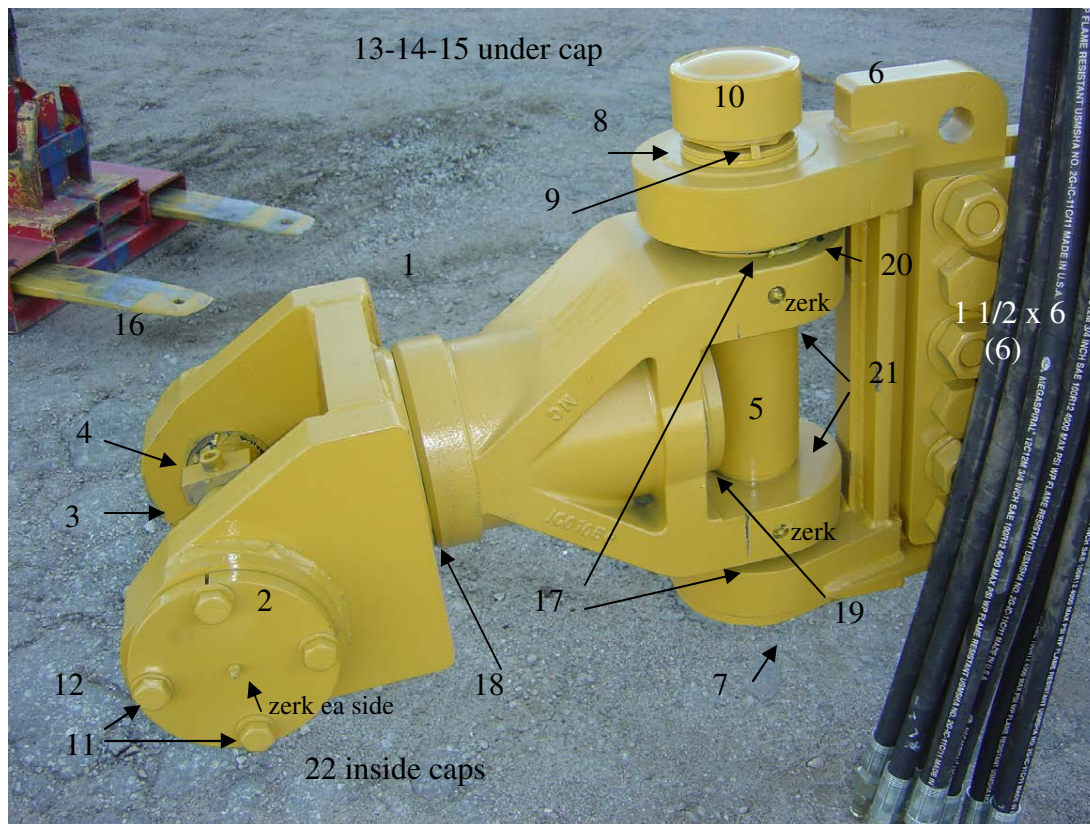
**2000460**



Shown is the 3" pin (ICO1094) used with the cast hitch. The top is milled to allow the retainer plate (ICO1095) to bolt on using (3) 5/8 x 3" bolts.

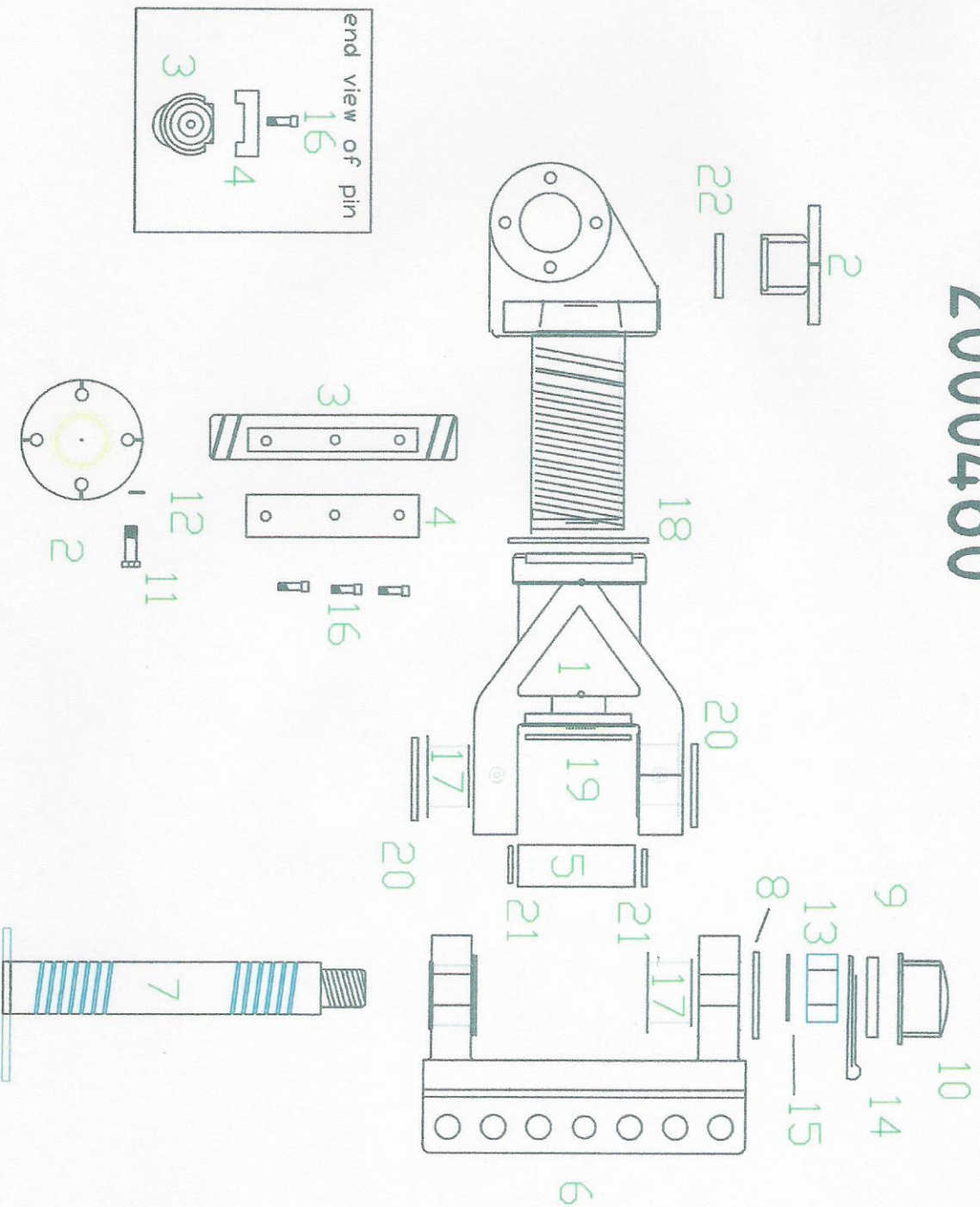






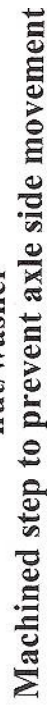
	Qty	Part #	Ref #	Description
1	1	ICO1092		Cast Swivel
2	2	ICO1093		Quick Attach 3" Pin Cap
3	1	ICO2052		Quick Attach 3" Pin
4	1	ICO2051		Quick Attach Pin Keeper
5	1	ICO1061		Hitch Spacer Tube
6	1	ICO1055		Cast Hitch Bracket
7	1	ICO1062		Main Vertical Pin
8	1	ICO1086		6" Swivel Hitch Spacer
9	1	ICO1087		2" Rubber Hose
10	1	4001292		4" PVC Cap
11	8	BH 3/4		Bolt, Hex 3/4 x 2" gr. 8
12	8	WFH 3/4		Washer, Flat Hard 3/4"
13	1	NS 2 1/2		Nut, Slotted 2 1/2" Course
14	1	PC 3/8		Pin, Cotter 3/8 x 5"
15	1	WFH 2 1/2		Washer, Flat 2 1/2" Hard
16	3	BH 5/8		Bolt, 5/8 x 3"
17	4	4001271		Bushing
18	1	4001272		O-Ring 8 7/8x8 1/2" ID
19	1	4001286		O-Ring 7 3/8x7" ID
20	2	4001275		O-Ring 5 7/8x 5" ID
21	2	4001274		O-Ring 4 x 3 5/8" ID
22	2	4001298		Wiper Seal 3 1/2 x 3 1/4"

# SUPER DUTY CAST 2000460

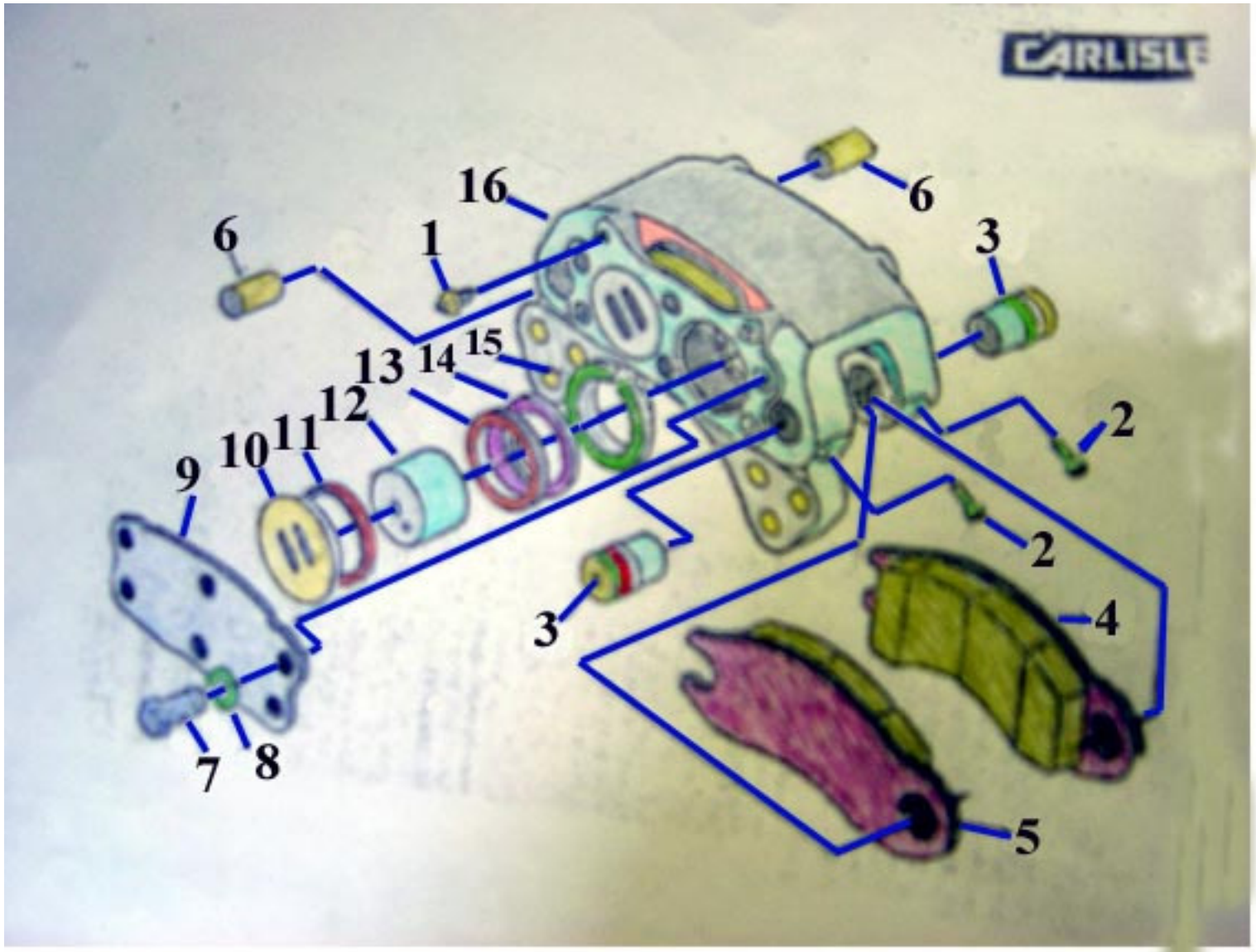




## Assembled - 20000512 &amp; 2000513



- |         |                           |
|---------|---------------------------|
| ICO2011 | Axle Assembly 29"         |
| ICO2010 | Axle Assembly 28"         |
| 4001313 | Snap Ring                 |
| 4001304 | Bearing Seal CR42627      |
| 4000413 | Bearing, Timken Cone      |
| 4000414 | Bearing (Race) Timken Cup |
| 4000552 | Zerk, 45 1/8"             |
| ICO1119 | Hub Assembly              |
| 4000549 | Hyd. O-Ring               |
| SCR2052 | Axle Spacer               |
| 4000412 | Bearing, Lock Washer      |
| 4000411 | Bearing Nut               |
| 4001303 | Zerk - 5psi relief        |



Brake components used on the ICON Earthmovers are manufactured by CARLSLE Braking Systems.

Below is a list of the components currently used on the Earthmover brakes. ICON does not stock or supply these components, they must be ordered directly from the Mfr. NOTE: Use only CARLSLE Approved parts.

#### Brake Head Assembly #419-888

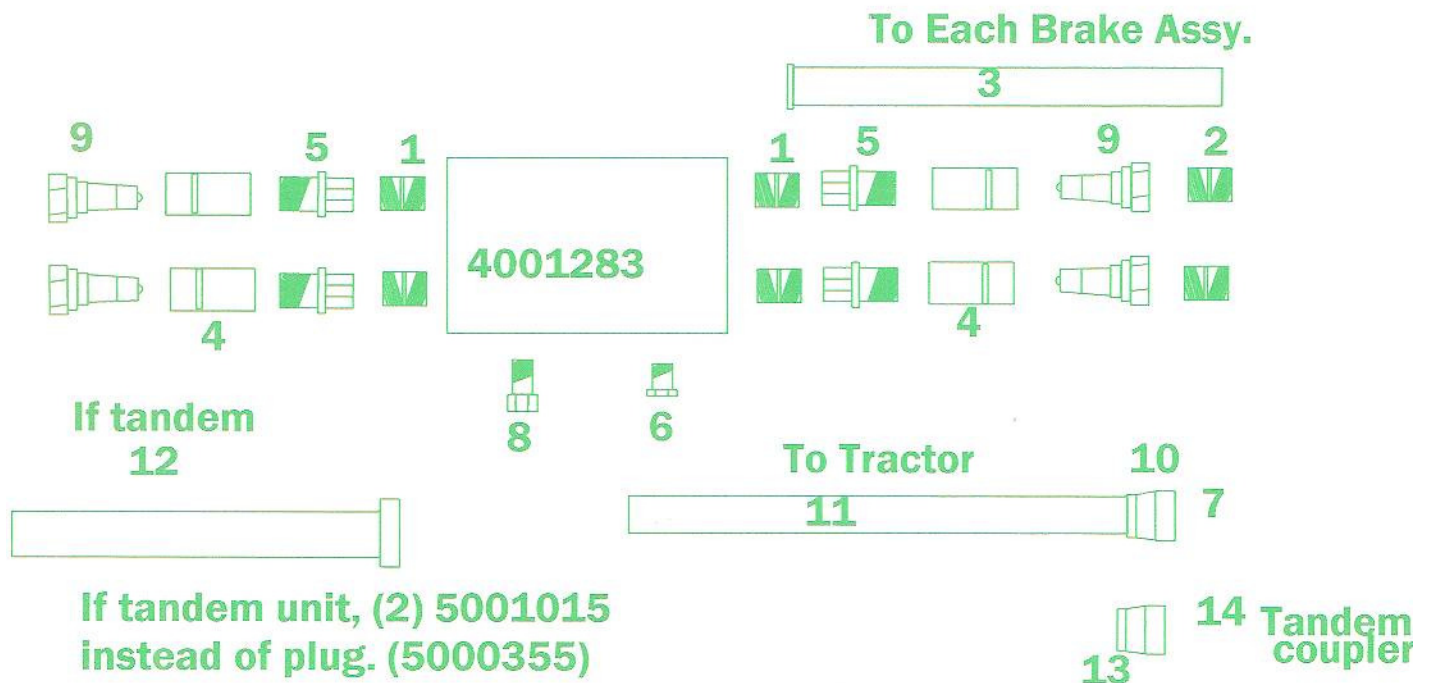
Index	Part	Description	Qty.
1.	84-35	Bleeder Valve (CAT #7K-4942)	1
2.	43-1140	Bolt, Hex (CAT #3V-0197)	4
3.	20-554	Pin	2
4.	244-741-2	Lining & Carrier Assy.	1
5.	244-741-1	Lining & Carrier Assy.	1
6.	20-490	Pin (CAT #4V-7277)	2
7.	43-1299	Bolt, Hex	6
8.	80-717	Washer	6
9.	93-986	Plate, Cover	1
10.	49-402	Plug, Piston (CAT #114-9304)	2
11.	*NSS	Packing Plug	2
12.	74-927	Piston (CAT #114-9306)	4
13.	*NSS	Packing Piston	4
14.	*NSS	Retainer Ring	4
15.	*NSS	Boot	4
16.	+184-979	Torque Plate	1
	**306-7376	Parts Kit	1
	328-741	Lining Kit	1

\*These items not sold separately: see parts kit



## Brake Fittings/Hose Package For 400 Series

Block is located on upper rear frame.



Item #	Description	Qty	Ref. #
5000919	Hyf-Adap 6MB-6MB	4	1
5000903	Hyf-Adap 6FB-10MB	4	2
5000902	Hose - 4MB-4M3Kx65"-6MB	4	3
5000845	Pioneer 1/2" Female End	4	4
5000920	Hyd-Adap 8MB-6FB	4	5
5000355	Hyd-Plug 8MB	1	6
5000907	Brake Coupler VF-0/1815	1	7
5001015	Hyf-Adap 8MB-8FFORX (2 if tandem)	1	8
5000835	Pioneer Male End 8010-16P 10FB	4	9
5000906	Hyd-Adap JIC to M 7400-10-18	1	10
5000911	Hose - 8MFFOR-8M3Kx594"-10FJX	1	11
5001016	Hose-10FJX-8M3Kx65-8MFFOR (#12 used on tandem)	1	12
5000905	Hyf-Adap JIC to M 7430-10-18	1	13
5000908	Hyd Rear Brk Coupler VF-7/1815M	1	14



# Brake Components

**Used on all ICON Earthmovers  
Equipped with Brakes**



Front Brake Coupler  
5000907  
(Faster VF1815F-0.4M)



5000906  
M18x1.5MWO-10MJ

The male end is mounted on the rear of the lead scraper. (If a tandem package is ordered).

It is standard on the AGCO Challenger tractors, if equipped with the brake package.



Rear Brake Coupler  
5000908  
(Faster, VF-7/1815-M)

## Cuttings Edges & Components



Wear Strip—ICO0340 (2 pcs)  
1/2 x 1 1/2" Carriage Bolts (12)

### Cutting Edges

Location	Dimensions	#	CAT #
Side (2)	7/8 x 13 x 35.75	4000851	178-4080
Center	7/8 x 16 x 60	4000951	174-8001
If a straight cut for finish work is required, a 13" center blade is available from CAT			
Center SC	7/8 x 13 x 60	4000619	4T6620
Center	7/8 x 19 x 60 (More aggressive cut)	4001013	

### Bolts Per Blade

4000851 .....6  
4000951.....10

Cutting Edges  
1 x 2 1/2" gr. 8 Plow Bolt  
1" gr. 8 Jam Nuts  
1" Hardened Flat Washers

### Side Cutting Edges

ICO0206L & R  
ICO2172/2173

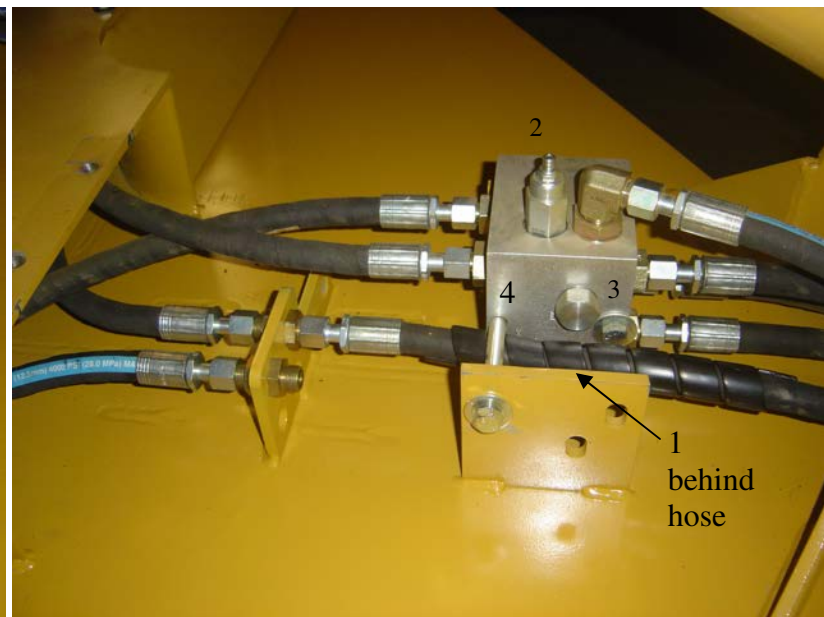
Each side requires (5) 3/4 x 2 1/2" Plow Bolts, Hard Washers and Hex Nuts.  
4" longer for deeper cut



## Hydraulics for 2 valve 400 series



The 2 valve sequence block components.  
Valve Seq. Block 4001452 (4)  
Pilot Check Valve CKGB-XCN 4001451 (3)  
Counter Valve CBGB-LHN 4001449 (1)  
Sequence Valve SCGA-LAN 4001450 (2)





## Hydraulic Hose Listing For 418 Single

5001096	2	Hose, 12FFORX-12C12x177"-12MB
5001097	2	Hose, 12FFORX-12C12x168"-12MB
5001098	1	Hose, 12FFORX-12C12x299"-12FFORX
5001099	2	Hose, 12FFORX-12C12x224"-12FFORX
5001100	1	Hose, 12FFORX-12C12x323"-12FFORX
5001101	1	Hose, 12FFORX-12C12x51"-12FFORX
5001102	1	Hose, 12FFORX-12C12x43"-12FFORX
5001103	1	Hose, 12FFORX-12C12x130"-12FFORX
5001104	1	Hose, 12FFORX-12C12x70"-12FFORX
5001140	1	Hose, 12FFORX-12C12x45"-12FFORX
5001106	1	Hose, 12FFORX-12C12x136"-12FFORX
5001139	1	Hose, 16MB-12C12x31"-12FFORX

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## Hydraulic Fittings For 418 Single

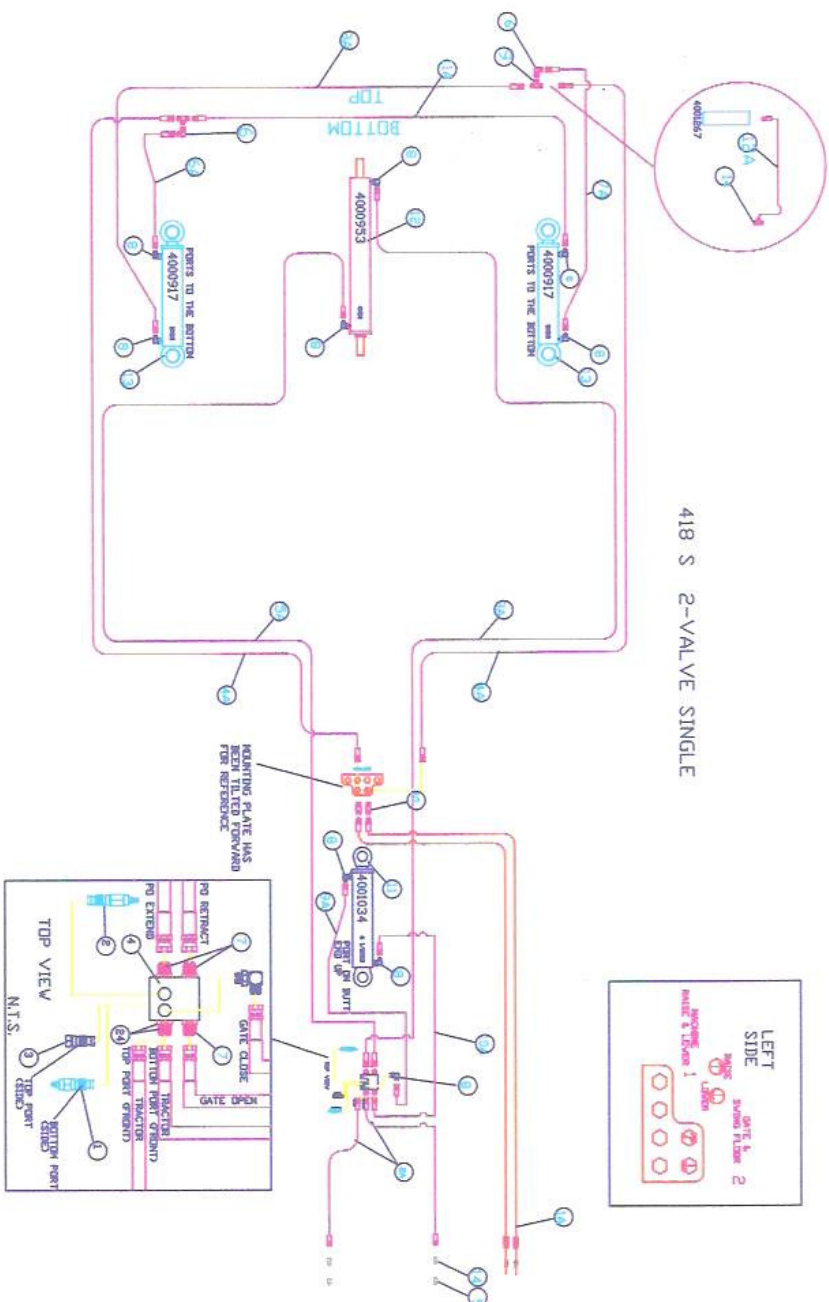
5001001	4	Hyf-Parker 3/4 Male End-12FB 1
5001047	2	Hyf-EL, 12FFORX-12MFFOR90
5000833	5	Hyf-Adpt. 12MB-12MFFOR
5000793	9	Hyf-EL, 12MFFOR-12MB90
5000983	2	Hyf-Tee, 12MFFORT
5001011	4	Hyf-12MFFORBH-LN

## Components Added To Complete Tandem

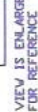
5001001	4	Pioneer Male 3/4" 12MB
5001011	4	Hyf-12MFFORBH-LN
5000977	4	Pioneer Female 3/4" 12MB
5001096	4	Hose, 12FFORX-12C12x177"-12MB
5001107	4	Hose, 12FFORX-12C12x365"-12FFORX

## 418 SINGLE

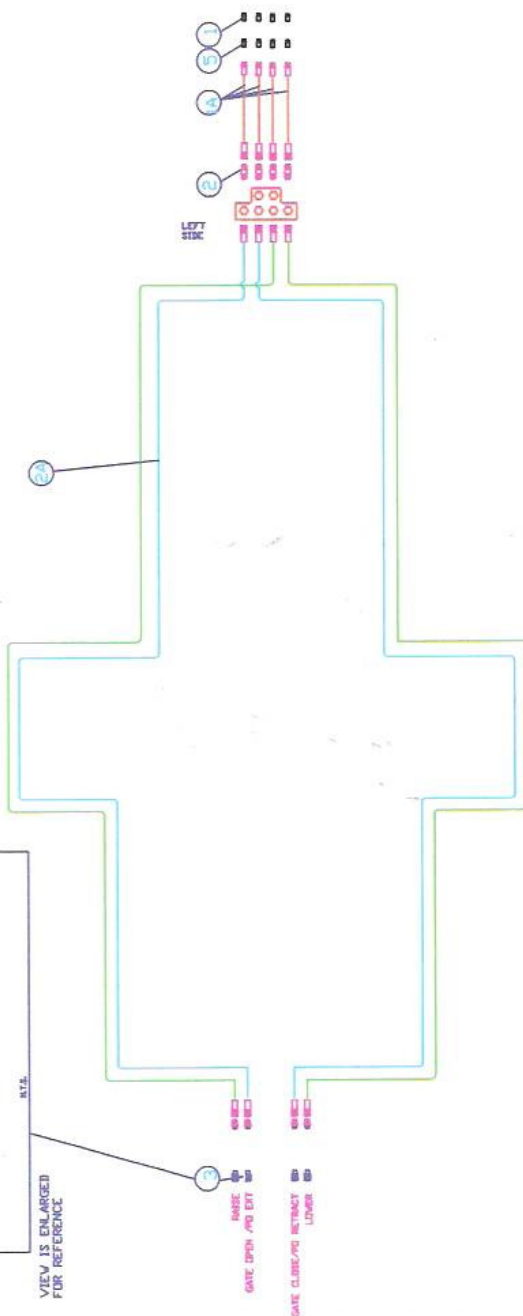
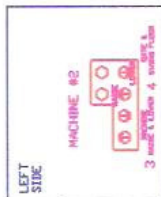
COMPONENT	DESCRIPTION	QTY.	No.
4001449	Counter Valve CBGB-LHN	1	1
4001450	Sequence Valve SCGA-LA	1	2
4001451	Pilot Chk Valve CKGB-XCN	1	3
4001452	Valve Block 60 Gal	1	4
5001001	PIONEER MALE 3/4 12FB	4	5
5001047	12MFFDRX-12MFFDR90	2	6
5000833	12MB-12MFFDR	5	7
5000793	12MFFDR-12MB90	9	8
5000983	TEE, 12MFFDRT	2	9
5001011	HYF-12MFFDRBH-LN	4	10
4001034	6 1/2 X 22 CYLINDER	1	11
4001036	4 X 50 CYLINDER	1	12
4001037	5 X 22 CYLINDER	2	13
5001060	TEE, 12MFFDR-12MFFDR-12FFDRXT	1	14
COMPONENT	DESCRIPTION	QTY.	No.
5001096	12EFFDRX-12C12 X 177"-12MB	2	1
5001097	12EFFDRX-12C12 X168"-12MB	2	2
5001098	12FFDRX-12C12 X299"-12FFDRX	1	3
5001099	12FFDRX-12C12 X224"-12FFDRX	2	4
5001100	12FFDRX-12C12 X333"-12FFDRX	1	5
5001101	12FFDRX-12C12 X 51"-12FFDRX	1	6
5001102	12FFDRX-12C12 X43"-12FFDRX	1	7
5001103	12FFDRX-12C12 X137"-12FFDRX	1	8
5001104	12FFDRX-12C12 X70"-12FFDRX	1	9
5001140	12FFDRX-12C12 X45 "-12FFDRX	1	10
5001106	12FFDRX-12C12 X143"-12FFDRX	1	11
5001139	16MB-12C12 X31"-12FFDRX	1	12



WELDS ON IT IS IN



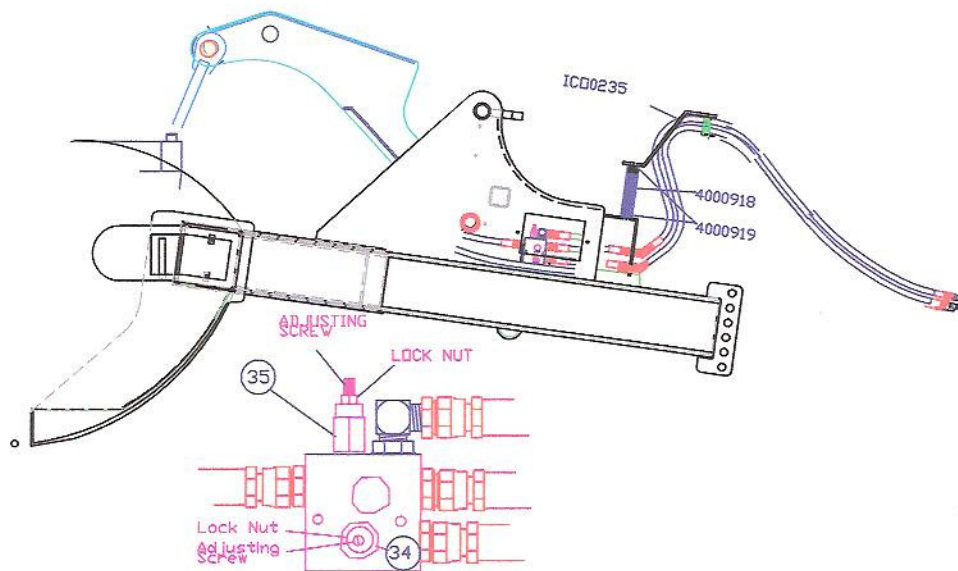
VALVE ADJUSTMENT

[illegible]

	DESCRIPTION	DAL	QTY.	No
5001096	12FFDRX-12C12 x 177	*-12MB	4	1
5001107	12FFDRX-12C12 x 365	*-12FFDRX	4	2
				3
				4
				5
				6
				7
				8
				9
				10
				11
				12
				13

418T 2-VALVE TANDEM

## Valve Adjustment 2 - valve hydraulics



## Valve Adjustment

Problem:

Push wall comes forward before gate is fully up.

Answer:

- \*Loosen locknut on top of valve
- \*Adjust sequence valve 1/4 turn clockwise and check performance.
- \*Repeat until remedied
- \*Retighten locknut

Problem:

Gate comes down before push wall is fully back.

Answer:

- \*Adjust counterbalance valve (located on side of valve block in tongue)
- \*Loosen locknut on top of valve
- \*Adjust counterbalance valve 1/4 turn counterclockwise and check performance.
- \*Repeat until remedied
- \*Retighten locknut.